

David Kember
Robert A. Ellis
Si Fan
Allison Trimble *Editors*

Adapting to Online and Blended Learning in Higher Education

Supporting the Retention and Success
of the Expanded and Diversified Intake

 Springer

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Editors

David Kember
Gravelly Beach, Australia

Si Fan 
School of Education
University of Tasmania
Launceston, TAS, Australia

Robert A. Ellis 
Learning and Teaching
Griffith University
Brisbane, QLD, Australia

Allison Trimble
Launceston, Australia

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Copyright in the Online Learning Support questionnaire, presented in Chaps. 14 and 18, is owned by David Hicks and David Kember (© David Hicks and David Kember, 2022). Readers are encouraged to make use of the questionnaire for purposes of research and the evaluation of teaching and learning, provided that due acknowledgement is made and the two chapters in this book are cited in any resulting publications.

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Editors and Contributors

About the Editors

David Kember has retired from university employment. His first involvement with distance education was at the University of the South Pacific. Next came roles at the University of Papua New Guinea and in Australia. David then spent 25 years in Hong Kong at the Polytechnic University, Chinese University and finally as a Professor in Higher Education at the University of Hong Kong. His final position was as a Professor in Curriculum Methods and Pedagogy at the University of Tasmania, Australia. During his career journey, David has had a recurring research interest in distance education, which has evolved through technological advancements into online and blended learning. Particular foci of this research have been on student learning and the retention and success of online and blended learners.

Robert A. Ellis is Pro Vice-Chancellor (Learning and Teaching) at Griffith University, Australia, and works with the Griffith Executive on strategic learning and teaching leadership and outcomes across twenty one schools. Prior to Griffith University, Rob was the inaugural Director of eLearning at the University of Sydney for over a decade. To inform his academic practice, Rob researches the experiences of university students and teachers, physical and virtual learning environments and how changes in these shape education quality and innovation in universities and the higher education sector. He regularly publishes in quality education journals, and has been a co-ordinating editor for Springer Publishing for the journal *Higher Education*, and series co-editor for the book series *Understanding Teaching-Learning Practice*.

Si Fan is a senior lecturer in the School of Education, University of Tasmania, Australia. She completed her Ph.D. at the University of Tasmania in 2011, with a thesis on web-based technology supported teaching and learning in higher education. She has a broad research interest in higher education and online pedagogy, teacher education, early childhood education, and language education. In particular, her research in online pedagogy has led to enhanced teaching practice and student

learning experiences in higher education. She has been involved in a number of research projects, including a national project involving four Australian Universities, which preceded this book.

Allison Trimble is a retired university researcher who previously worked in the School of Education at the University of Tasmania, Australia. She has worked in the area of online learning for the past few years. She collected and analysed the interview data which supports the UTAS case study highlighted in this book. Previously Allison has examined the area of Education Law in Australia, and particularly the impact of Education Law on the work of school principals.

Contributors

Nici Barnes Tasmanian Institute of Agriculture, University of Tasmania, Burnie, Australia

Elisa Bone Centre for the Study of Higher Education, The University of Melbourne, Parkville, Australia

Susan M. Bridges Centre for the Enhancement of Teaching and Learning, The University of Hong Kong, Pokfulam, Hong Kong SAR, China

Robert Ceperkovic International Language Institute, Seoul National University of Education, Seoul, Republic of Korea

Cecilia K. Y. Chan Centre for the Enhancement of Teaching and Learning/Faculty of Education, University of Hong Kong, Pokfulam, Hong Kong SAR, China

Jamie Chapman Tasmanian School of Medicine, College of Health and Medicine, University of Tasmania, Hobart, Australia

James Chase School of Humanities, College of Arts, Law and Education, University of Tasmania, Launceston, TAS, Australia

Michael Corbett School of Education, Acadia University, Wolfville, Nova Scotia, Canada

Tracy Douglas School of Health Sciences, College of Health and Medicine, University of Tasmania, Launceston, TAS, Australia

Robert A. Ellis Griffith University, Brisbane, QLD, Australia

Si Fan Faculty of Education, University of Tasmania, Launceston, Burnie, Hobart, TAS, Australia

Sarah Fischer Faculty of Education, University of Tasmania, Launceston, TAS, Australia

Sarah French Melbourne Centre for the Study of Higher Education, University of Melbourne, Melbourne, Australia

David Hicks School of Education, University of Tasmania, Launceston, Tasmania, Australia

David Kember Gravelly Beach, Australia

Sue Kilpatrick Faculty of Education, University of Tasmania, Launceston, Australia

Doris Y. P. Leung School of Nursing, The Hong Kong Polytechnic University, Hong Kong, China

Casey Mainsbridge School of Education, Faculty of Humanities, Arts, Social Sciences, and Education, University of New England, Armidale, NSW, Australia

Tracey Muir Faculty of Education, University of Tasmania, Launceston, TAS, Australia

Uyen Nu Thuy Nguyen Faculty of English, University of Foreign Language Studies, The University of Danang, Danang, Vietnam

Michael Prosser Melbourne Centre for the Study of Higher Education, University of Melbourne, Melbourne, VIC, Australia

Stephanie Richey Faculty of Education, University of Tasmania, Burnie, TAS, Australia

Shayan Sharifi Department of Design Engineering, Faculty of Engineering, Imperial College London, London, UK

Damon Thomas The University of Queensland, Brisbane, Queensland, Australia

Allison Trimble Launceston, Australia

Isabel Wang School of Humanities, College of Arts, Law and Education, University of Tasmania, Launceston, TAS, Australia

Chapter 1

Introduction



David Kember, Allison Trimble, and David Hicks

Abstract The introductory chapter sets the context for the book. Since the onset of Covid-19, students, teachers and universities have had to adopt online and blended learning, often with little or no experience, expertise, or models of good practice to draw upon. The chapter then provides an overview of the book. The first part of the book shows how some universities have expanded and diversified their student intake by shifting towards a contemporary model of admission and course delivery, including the availability of online learning. As a result, they gained experience and expertise in online and blended learning prior to the onset of Covid. The second part of the book examines the role of student support services in promoting the retention and success of online and blended learners. The third part presents a model, tested with Structural Equation Modelling (SEM), of how four elements of online pedagogy can generate a supporting online environment that prompts the formation of virtual learning communities. Two chapters in this part of the book provide detailed qualitative illustrations of how teachers can put the model into practice for online and blended learners. This introductory chapter provides overall details of the student interviews which generated the data for most of the chapters in the book. The introductory chapter explains SEM in a way that a non-specialist will be able to understand.

D. Kember (✉)
Gravelly Beach, Australia

A. Trimble
Launceston, Australia

D. Hicks
School of Education, University of Tasmania, Launceston, Australia
e-mail: david.hicks@utas.edu.au

1.1 Introduction to the Introduction

This first Introduction chapter of the book consists of four main parts.

- The chapter starts with an overview of the book which explains the organising thematic and conceptual flow of the book. The book has been carefully planned, so as to present a coherent argument and thread. Chapters build progressively upon each other. This overview section, therefore, acts as an advance organiser showing how the thesis flows and builds through the book.
- The background to the research is briefly explained by a brief history of the loosely-linked projects which ended up providing sufficient material for this book.
- The third part provides details of the interview data gathered at the university which had adopted a contemporary model of admission and course delivery. These interview data are used in several chapters of the book, so gathering together, in this chapter, information about the interview sample, analysis, and coding, avoids repetition.
- Several chapters make use of Structural Equation Modelling (SEM). The final part of the chapter contains an understandable guide to this statistical technique. SEM tests the goodness of fit of hypothesised models; so this section explains the diagrammatic conventions employed in presenting the model diagrams and the interpretation of the information contained in tested models.

1.2 The Impact of Covid-19 on Modes of Teaching and Learning

The onset of Covid-19 had a massive impact on universities around the world. As social distancing requirements and lockdowns were introduced, on-campus classes became either impossible or severely restricted. Instead, teachers and students were forced to embrace online or blended forms of learning. To compound this transition, it had to take place in a very short space of time—often literally overnight.

Chapter 13 brings an international perspective to the transition, by presenting case studies from five countries. The chapter synthesises some elements of commonality. For the purposes of this introduction, it is pertinent to note that many universities and teachers were ill-prepared to make the sudden transition to online or blended modes of learning and teaching.

Modes of teaching and learning can be envisaged as being on a continuum between fully on-campus at one pole to fully online at the other pole. These days, everything in between is normally labelled blended learning. This way of characterising online and blended learning is consistent with definitions by Dziuban et al. (2004). In discussing the experience of online and blended learning prior to the onset of Covid-19, it would be a reasonable generalisation to say that most of the universities, which have traditionally been classified as on-campus teaching universities, would not have made major advances across the mode of teaching and learning continuum, towards

the fully online pole of the continuum in the degree of blended learning employed. Chapter 13 presents cases of universities with predominantly on-campus teaching, prior to Covid, which had made little use of online teaching. Many universities allocated Learning Management System (LMS) sites to most subjects or courses, but many teachers did little to take advantage of the facility. A typical approach was that of uploading PowerPoint slides from the lectures and having a discussion forum, commonly used for little more than posting announcements. Universities and their teachers were, therefore, often ill-prepared for making a sudden transition to online and blended learning. As teaching had been predominantly through on-campus classes, expertise in the use of online and blended teaching had not been accumulated; and models of good practice had not been developed. Many universities lacked a sophisticated LMS of the type used by predominantly online universities as a platform for their teaching.

Students of on-campus universities were often even less well prepared for the disruptions to learning and teaching. The regular on-campus classes they were used to, were replaced by hastily prepared ‘classes’ online. To compound the difficulty, students could not go on-campus, so they were forced to study from their homes. For younger students this was commonly the first time they had studied in an off-campus mode; with their inexperience of studying in the home often exacerbated by a range of issues and conditions. More mature students might have faced whole families being required to work at home, including children who needed help and supervision for their online school classes.

The difficulties of adapting to Covid for universities, teachers and students are not disappearing. Firstly, Covid lingers on; with new variants appearing periodically. Secondly, and more importantly, many universities are retaining significant degrees of blended learning, rather than returning to having all classes on campus, for reasons of flexibility and cost-effectiveness.

1.3 The Relevant Experience of the University Which Had Adopted a Contemporary Model

One of the most significant claims of this book is that the majority of the chapters are derived from a dual-mode university which had made a major transition towards online and blended learning. Rather than making the transition in a short space of time, following the onset of Covid-19, though, the transition had been a gradual one, over an extended period of time, because of the need to cater for a very diverse potential student body in the state in which the university is located. Undergoing the transition from on-campus to predominantly online teaching over an extended period has meant that experience and expertise about online and blended teaching and providing support to online students has been accumulated. One of the main aims of this book is to pass on that experience and expertise to those who have had to make the transition in a far shorter timeframe. The book presents models of good practice

for online and blended teaching and for supporting the retention and success of online learners; with the models derived from rigorous qualitative and quantitative research and profusely illustrated with exemplars from the online courses of award-winning teachers.

1.4 Expansion and Diversification of the Student Body

The introduction of a contemporary model of admission and course delivery, including a heavy online learning component, has meant that the university with the contemporary model has been able to admit an expanded and markedly diverse student body. This is the subject matter for Part A of the book under the title: ‘Adapting a contemporary model of admission and course delivery to expand and diversify the student intake’.

It is pertinent to point out that the vision of the expansion and diversification of the student body adopts an alternative framework to the equity agenda reviewed in Chap. 3. The Australian government has defined equity in terms of six categories of disadvantage (DEET, 1990).

- Those from a non-English speaking background;
- Students with disability;
- Women in non-traditional areas;
- Those who identify as Aboriginal and Torres Strait Islanders;
- Students from low SES locations, based on the statistical areas of permanent home residence; and
- Those from regional and remote locations, based on statistical areas of permanent home residence.

Chapters 4 and 5, though, show that adopting a contemporary model of admission and course delivery results in a student body which embraces multiple associated challenges much broader than the six defined equity groups. The vision of an expanded and diverse student body adopted in the book is, therefore, broader and more holistic than the six defined equity categories (DEET, 1990).

Chapter 3 provides more relevant background information by casting a lens over Tasmania—the home state of the University of Tasmania (UTAS), which is the one we have interpreted as being a university that has adopted a contemporary model of admission and course delivery. The chapter shows that Tasmania lags behind other Australian states on many educational, social, health, and economic indicators. Educational indicators are of particular concern for the book, as Tasmania has the lowest tertiary participation rate of any state, so expanding and diversifying the student intake is a priority. Relatively poor performance in schools, as indicated by measures such as NAPLAN testing, is also a concern, as it leaves many students who are admitted poorly prepared for higher education.

The spectrum from traditional to contemporary models of admission and course delivery is then discussed in Chap. 4. Evidence is presented that shifting across the

spectrum from the traditional to contemporary poles does make a very significant change to the nature of the student body. Chapter 5 uses case studies to graphically illustrate the diverse student body juggling the demands of online study in the home, while at the same time needing to deal with a wide range of issues, including family commitments and employment demands. The concept of multiple associated challenges acting in concert is put forward as a more appropriate descriptor than the six defined equity disadvantages (DEET, 1990). Chapter 6 looks at the particular case of rural, regional and remote (RRR) students. It is shown that online learning is particularly important to RRR students, as it enables them to study without leaving their homes in RRR areas, which many are unable or unwilling to do. Analysis of qualitative data illustrates well the RRR students coping with multiple associated challenges acting in concert. The qualitative analysis is reinforced with SEM modelling which showed that, with appropriate statistical controls, RRR and low SES students performed just about as well as others.

The final chapter of Part A presents a framework for the coping mechanisms students adopted to cope with the multiple associated challenges acting in concert. The framework had three coping mechanism: sacrifice, support, and negotiation of arrangements, which operated in the domains of the self, family, and work.

1.5 Providing Support to Online and Blended Learners

Part B focuses on student support services and how they can promote the retention and success of online and blended learners. Part B starts with two literature reviews. Firstly, a review of the literature on student support services. Secondly, a review of the literature on attrition, retention and success.

Chapter 10 compares SEM models of retention and success for universities at the traditional and contemporary end of the spectrum for admission and course delivery. Variables in the models were restricted to those in the student record databases, or readily derived from ones in the database. The model showed that retention and success are complex multivariate phenomena. The model for the contemporary university was more complex than that for the traditional one.

Chapter 11 compares student support services for universities, which ranged across the spectrum from traditional to contemporary models of admission and course delivery. The primary data for the chapter comes from interviews and other information provided by the staff of the student support services. The chapter argues that, as student intakes become more diverse, student support services need to adopt models of universal care and support.

Chapter 12 examines student support services from the perspective of online and blended learners. The student perspective suggests that support services in dual-mode universities were designed to provide support to students who come on campus. The chapter, therefore, provides evidence which might challenge universities to better design support services to cater for students who study wholly or partly online.

1.6 Modelling How Support Can Be Provided to Online and Blended Learners

Chapter 13, the first chapter of Part C, contains five case studies of how universities around the world adapted to the onset of Covid-19. An analysis of the cases discusses potential implications for the ongoing use of blended learning in the new normal.

Chapter 14 is a key chapter in Part C as it presents a rigorously researched model of how teachers can provide support to online and blended learners through an online environment with four high-quality pedagogical elements: bite-sized videos of interest and relevance; learning materials which are well organised and provide a clear learning roadmap; discussion forums which are set up and moderated so as to result in lively student–student and student–teacher interaction; and, online teachers being approachable and responsive to communication with individual students through email, phone, and online communication platforms. The SEM modelling showed that the four pedagogical elements promoted the formation of virtual learning communities with elements of both social and academic integration. Models of attrition for on-campus students have demonstrated that achieving social and academic integration is a precursor to retention and success. The model in Chap. 14 is, therefore, an equivalent model suited to online and blended learners, in that the learning communities are virtual. Chapter 14, therefore, presents a model of how teachers can support the retention and success of online blended learners by configuring their teaching to be consistent with the four pedagogical elements of the model.

Chapter 15 is an extension of Chap. 14, in that it fully characterises and illustrates the four pedagogical elements. The characterisation draws upon the interviews with students enrolled in the online and blended learning subjects taught by a group of award-winning teachers. Each facet of the four pedagogical elements is illustrated by interview quotations in which students explain and describe which aspects of the online teaching provided them with support. The linking text builds up a clear explanation of how teaching needs to be configured to support online learners. The facets of the four pedagogical elements are then further illustrated by exemplifiers from the LMS sites of the award-winning teachers, which correspond with the selected interview quotations. The chapter, therefore, provides a detailed and profusely illustrated guide for teachers to follow if they are to support the retention and success of their online students.

Chapter 16 parallels Chap. 15 by providing a detailed guide to operationalising the four pedagogical elements of the model for blended learning. This chapter provides an invaluable guide for teachers who are required to transition from on-campus classes to blended learning. Illustrative material is in the same form as Chap. 15. In this case, it comes from a blended learning course in anatomy and physiology.

The model of Chap. 14 provides SEM evidence that the four pedagogical elements can promote the formation of virtual learning communities, with social and academic integration components. These pedagogical elements are important in achieving integration which has been shown to be a determinant of retention and success (see Chap. 9). Chapter 17 discusses complementary qualitative evidence for the formation

of virtual learning communities. The role peer students can play in the development of learning communities is highlighted.

The next two chapters concentrate on the important issue of how the models of good practice might be implemented across a university. Chapter 18 describes how the questionnaire used to gather the data for the SEM analysis in Chap. 14 can be used to provide feedback to teachers on how to better operationalise the four pedagogical elements of the model. The chapter contains practical advice on data collection, presentation of results and providing counselling which could result in quality enhancement. Chapter 19 takes a considerably broader and more holistic approach to implementation. It draws widely on earlier parts of the book and builds upon them. The perspective adopted is an ecological whole-of-institution view of how student support services can be aligned with student needs in the new normal of a high incidence of online and blended learning.

The conclusion of the book in Chap. 20 attempts to draw together the elements of the organisational thesis and to meld the developmental thread which runs through the book. There is an attempt to develop a holistic model which incorporates the following constructs from throughout the book.

- The multiple associated challenges acting in concert faced by the expanded and diversified student body.
- The virtual support which teachers can provide to online and blended learners through the four pedagogical elements.
- The coping mechanisms which students adopt to deal with studying from home, while coping with family and work commitments and juggling with the demands of study through online and blended modes.
- An element for institutional student support, incorporating proposals for how support services can be better aligned with the needs of online and blended learners.
- Virtual learning communities, with facets of academic and social integration.
- The outcome phase of the model incorporates retention and success, which are normally measured by degrees of attrition or retention and Grade Point Average (GPA).

1.7 Background to the Research

The book was preceded by a series of loosely-linked projects and initiatives. The initial impetus came from a project, with nine collaborators, funded by a very small UTAS internal teaching development grant (TDG). The group was interested in whether pedagogical innovations in online teaching could have any impact on the levels of attrition from the online mode of study.

At about the time the limited funds were running out, the project leader was awarded a HEPPP 2018 National Priorities Pool Project, with the title *Admission and Success for Low SES University Students*. As attrition was a major factor in success, and the availability of online learning was the key contributor to widening

admissions, the qualitative interview sample from the University of Tasmania (UTAS) was drawn from the online subjects taught by the TDG participants.

The HEPPP project uncovered insights which went well beyond the project brief. The substantial body of data gathered for the project turned out to also be pertinent to issues outside the scope of the commissioned project. The genesis of this book, therefore, comes from further analysis of the database and considerably extends the analysis in new directions and towards new conceptualisations.

Many of the invited chapter authors were participants in either the HEPPP or TDG projects and in the research which continued beyond these projects. This has made it possible to produce an edited collection with a coherent thread throughout.

1.8 Interview Data from the University with the Contemporary Model

As noted above, a number of chapters in this book use qualitative data originally collected for a University of Tasmania 2019 Teaching Development Grant (TDG) project and an Australian Government Higher Education Participation and Partnerships Program (HEPPP) 2018 National Priorities Pool Project: *Admission and Success for Low SES University Students* (Kember & Ellis, 2022). The qualitative data consisted of interviews with students enrolled in online and blended learning subjects and degrees (the focus subjects and degrees), discussion posts made by students to the subject LMS during those focus subjects, as well as some use of qualitative comments from student evaluation surveys submitted by students at the completion of the focus subjects. The student surveys are part of the formal university quality assurance process and provide voluntary, anonymous student evaluation feedback in relation to the subject and teaching at the end of semester. Members of the TDG research study team taught or led the focus subjects and degrees studied by the participants. They applied a number of different teaching initiatives in the subjects or degrees to foster student engagement.

The research questions for which the data were originally collected were:

- What pedagogical strategies are used by instructors to encourage student engagement?
- How successful are those strategies in encouraging student engagement?

This research adopted a constructivist perspective, characterised by the beliefs that knowledge is constructed rather than discovered, and that there are multiple perspectives or interpretations (Bada & Olusegun, 2015). This approach was appropriate given that the research occurred in a natural setting, where the researchers were positioned within the research (Creswell & Poth, 2016).

1.8.1 Participants

The research population for the study was 881 students who were enrolled in the following focus subjects and degrees in Semester 1, 2019:

- 300 blended learning students enrolled in the subject Human Anatomy and Physiology.
- 172 online students enrolled in the subject Academic Literacies.
- 185 online students enrolled in the subject Planning for Positive Behaviour.
- 105 online students enrolled in the subject Teaching Primary Mathematics.
- 60 online students enrolled in the subject Introduction to Chinese.
- 194 online students admitted to the Bachelor of Arts degree (“Arts students”).
- 50 online Education students, who had been identified as being in need of additional academic support through the university-wide Academic Progress Review process (“Education students”).

The participant interview sample was purposively selected from a cohort of online and blended learning students studying across a number of different discipline areas, including Education, Health Sciences, Humanities, and Arts. Information in relation to the interviewed participants, their focus subjects or degree of study, and the relevant teaching initiatives is set out in Table 1.1.

A total of 43 students were interviewed. One interview was excluded due to withdrawal of consent by the participant, and another because it contained insufficient relevant information, leaving 41 interviews for analysis. Purposively identified student discussion board posts and student survey comments from the total students enrolled in the focus subjects were selected for analysis.

Table 1.1 Interview participants, focus subjects or degrees, and teaching initiatives

Number of interview participants	Focus subject or degree	Teaching initiative
4	Human Anatomy and Physiology	Discussion boards and flipped learning
9	Academic Literacies	Personalised messages
8	Planning for Positive Behaviour	Discussion boards and assignment preparation presentations
9	Teaching Primary Mathematics	Discussion boards, welcome videos and webinars
3	Introduction to Chinese	Use of <i>Chinese Island</i> , an immersive 3D multiuser virtual environment
6	Arts degree	Academic mentors
4	Education degree students in need of academic support	Personal contact and academic study plans

Demographic information was collected from the interview participants. In terms of gender, 34 participants (83%) were female and 7 (17%) were male. Participants had a wide age range, from late teens to their seventies: under 30 years of age—17 (42%), from 30 to 50 years—21 (51%), and over 50 years—3 (7%). Participants' residential locations also varied widely, including Tasmania (North and Northeast, East Coast, Hobart and surrounds, and South), other Australian States (Victoria—Melbourne and regional, and New South Wales—Sydney), and overseas (Japan). Two participants self-identified as living with disability. Twelve of the interview participants were attempting their first tertiary degree (approximately 30%), while 29 (around 70%) had some previous university experience, often from degrees which had not been completed. Participants were divided fairly equally in terms of full and part time enrolments, with 20 (48%) studying a full-time load, and 21 (52%) enrolled part-time.

Participants who contributed discussion posts were selected purposively from the research population outlined above. The anonymous student survey comments were similarly selected purposively from those submitted by students who constituted the total research sample.

1.8.2 Interview Schedule

The interview schedule for this research was wide-ranging and included the following questions:

- How was your initial experience of online study?
- How did it differ from previous educational experiences?
- What coping strategies did you adopt?
- What is it like studying off-campus in a remote or metropolitan location?
- Did you have contact with, or study informally with, other students?
- How do work, family and social commitments impact upon your study?
- Did [focus subject] have features which helped you to adapt?
- How did it compare studying this subject with the others you have taken?
- Did you feel part of a learning community in your degree?
- Did you experience feelings of belonging when online?
- Did you understand the academic standards expected in your degree?
- Did your online experience help you understand the academic standards of your degree?

The semi-structured nature of the interviews (Kallio et al., 2016), meant that the listed questions were developed within this predetermined thematic framework. However, the questions were not set in terms of order or in phrasing. Given the *exploratory* nature of the study, participant answers were used by the interviewer as the basis to reformulate queries, give prompts, and follow-up points of interest.

1.8.3 Data Collection

Online and blended learning students enrolled in the focus subjects and degrees were invited to participate in an interview with the TDG study's Research Assistant (RA). Students who decided to take part in the research contacted the interviewer directly, and the teaching researchers were not aware of which students were interviewed. The interviews were undertaken from the end of Semester 1 (July) through to December 2019. Interviews were conducted face-to-face, by phone and video-call (Melis Cin et al., 2021; Sturges & Hanrahan, 2004) in accordance with participants' preferences. Interviews took place after participants had completed the relevant focus subject, or, in the case of the Arts and Education degree students, their Semester 1 studies. The interviews lasted around 45 minutes and were digitally recorded and professionally transcribed.

In accordance with the study's ethics approval, the researchers collected discussion posts from the focus unit and course LMS. All students were contacted and offered the opportunity to opt out of this collection. Their decision to do so could be made direct to the study RA. No students exercised their option to opt-out from the collection of their discussion board posts. The student survey comments were submitted voluntarily by students at the completion of the focus subjects. These comments were anonymous and were available to the researchers in the normal course of their teaching responsibilities.

1.8.4 Data Management

The interview transcripts, discussion board posts, and student survey comments collected for the study were fully anonymised. Firstly, pseudonyms were substituted for participants' names. Secondly, any other potentially identifying information was removed, such as teachers' names, and references to personal background matters. The interview transcripts were checked for entry accuracy and were forwarded to participants for member checking (Birt et al., 2016). All amendments requested by participants were reflected in the transcripts. The qualitative data collected for this research were all in text form and were uploaded to an NVivo file for data analysis.

1.8.5 Data Coding and Analysis

The interview data were coded using NVivo. As described earlier in this chapter, a large amount of data were collected and utilised for several different projects with multiple main themes. This required the adoption of a complex, continually iterative, coding process reflecting various different, although connected, general emphases.

In each instance of coding and recoding, the interview data were analysed through iterative thematic analysis using a constant comparison technique (Creswell & Clark, 2017; Merriam & Tisdell, 2015). Using this approach, the researchers considered the data in light of pre-existing themes identified from the literature, while at the same time, being sensitive to new emergent patterns (Braun & Clarke, 2019; Lochmiller, 2021). The qualitative data reduction involved the systematic allocation of codes to the data which were subsequently developed into higher-order themes (Elliott, 2018; Miles & Huberman, 1994). Initial codes were given to words, phrases and sentences in the text material that seemed to “stand out” (Bryman et al., 2008, p. 298). As the data were continually reread and compared, those descriptive topic codes were replaced with more abstract categories (Hesse-Biber & Leavy, 2010; Kennedy, 2016). The data were then examined to identify the emergent interconnections and patterns. Corresponding patterns were placed together, and direct quotes were identified from the data to illustrate the categories (Bryman et al., 2008; Ganapathy, 2016). The patterns within the data were then examined for overarching themes operating at a higher level of abstraction again, and data were gathered under those themes (Braun & Clarke, 2019; Lindgren et al., 2020).

The interviews in relation to the student experience were extensive and proved sufficiently wide-ranging that they contained data for a number of topics examined in this book. The data were initially analysed on the basis of the various teaching initiatives instituted by the researchers in the focus subjects and degrees. As analysis progressed, the data revealed aspects relating to a broad range of thematic topics and issues. The range of topics was so broad that the analysis essentially proceeded through a set of relatively independent sub-projects to analyse each topic. As each topic emerged, the researchers interested in the particular topic discussed the broad conceptual orientation of the identified topical theme. NVivo was then used to perform a sort to extract relevant data from the coded database. Analysis of the theme then proceeded on the sorted section of the database.

The UTAS interviews, together with the other qualitative data collected from students in the focus subjects, have been used to provide data for nine of the chapters in the book, following the series of analytical procedures outlined here. This section of Chapter 1 serves as a detailed methodological account of the collection and analysis of the interview data for these chapters. Table 1.2 shows the chapters and their themes.

1.8.6 Validity of Results

As Creswell and Poth (2016) have advocated, a number of strategies were adopted to ensure the trustworthiness of the qualitative data and findings. They included the following:

- Use of low-inference descriptors. Verbatim quotes were used rather than a general sense of what was said during interviews (Eldh et al., 2020).

Table 1.2 Chapters that draw upon the interview data

Chapter	Broad theme
5	Case studies are used to show the characteristics of the diverse student body and the multiple associated challenges they face
6	Catering for rural, regional and remote students with online learning
7	Coping mechanisms adopted by the diverse student body
11	Institutional student support services
12	Students' perceptions of institutional student support services for online and blended learners
14	Student perceptions are used to briefly illustrate a model of how the teacher can support online learners
15	Student perceptions are used to provide a detailed illustration and substantiation of a model of how the teacher can support online learners
16	Student perceptions are used to provide a detailed illustration and substantiation of a model of how the teacher can support blended learners
17	Peer student support and the formation of learning communities

- Member checking. Participants were afforded the opportunity to check their interview transcript. This process helped to ensure accuracy in the data, but also empowered participants to express and control their own voice in the research. Although most participants confirmed the transcripts, some took the opportunity to clarify their views and the intent of their comments. All participant requests for transcript changes were actioned (Birt et al., 2016)
- Participants were recruited, and data collected, until saturation and replication indicated comprehensiveness (Fusch & Ness, 2015).
- Negative cases were sought out and included in the qualitative data and findings (Hesse-Biber & Leavy, 2010).
- Thick descriptions were used to convey the participants' perceptions of the support they received during their online and blended study (Creswell & Clark, 2017).
- Data triangulation. In the context of the larger HEPPE study (Kember & Ellis, 2022) the student survey and SEM modelling (described in detail in Chaps. 10 and 14), provided both data and methodological triangulation (Roulston, 2018) for the qualitative data.

1.9 A Guide to the Interpretation of Structural Equation Modelling

Structural Equation Modelling (SEM) is not a method in itself but rather a range of methods that can be broadly described as a combination of factor analysis and regression (Hox & Bechger, 1998). When conducting SEM, relationships between variables are hypothesised and then compared to the data with the overall aim of confirming how closely these relationships resemble those that exist within the data,

their strength, and whether or not they demonstrate statistical significance (Kelloway, 1995). SEM was developed to overcome two issues common to other multivariate methods of analysis. Firstly, the need to measure both contextual and sequential factors that impact the influence of one variable on another. Secondly, the need to measure phenomena which cannot be directly observed but rather inferred by their influence on phenomena that can.

To address the first of these issues, SEM employs a special case of regression analysis—path analysis. The main goal of path analysis is to explore hypothesised causality between sets of variables by solving a set of simultaneous regression equations, or models, which subsequently allow researchers to calculate the overall, direct, and indirect effects of one variable on another. The relationships that can be specified and tested, and the number of variables between which this can occur, are limited only by the size of the data set one is drawing on and whether or not the model is empirically identified.¹

To address the second of these issues SEM typically employs a special type of variable—a Latent Variable.² A latent variable is a variable that, due to its nature, cannot be directly observed but can be inferred and subsequently measured by its impact on variables that can. For example, whilst it is difficult to measure an individual's emotions or well-being, it is far less difficult to identify and measure their outwards manifestations through the presence or absence of certain behaviours (e.g. a smile, a laugh, a pleasant interaction). Placing such an example in the context of teaching and learning, whilst we cannot explicitly measure 'good pedagogy', we can theorise that it will contain and draw heavily on certain structures and methods relevant to the discipline and context within which it is situated and subsequently measure these.

Whilst the development of SEM addressed issues of both relational complexity and measurement, these innovations required researchers to address another perhaps more pressing issue—for any given model there are multiple ways in which the researcher can order and arrange the variables restricted only by a limited set of rules which can generally be broken with care,³ the number of variables and subsequently the number of possible permutations. For example, from a practical perspective, testing whether 'a' influences 'b', which subsequently influences 'c' would be approached no differently than testing whether 'c' influences 'a' which subsequently influence 'b' (or indeed any other combination of said variables). Conversely, from a theoretical perspective, the difference is significant—these are entirely different questions being answered.

To address this problem, a range of statistics or 'fit-indices' were developed as a means to provide information to the researcher in regard to how well the proposed model fits the data. These can be broadly grouped into two categories: Absolute Fit Indices and Incremental Fit Indices. Absolute Fit Indices aim to assess the amount

¹ See Hox and Bechger (1998) for an overview of model identification.

² Note: Latent Variables are often referred to as "Factors".

³ For example, various path tracing rules have been proposed (e.g. Wright [1934])—however more recent developments (e.g. PLS SEM) have rendered many of these obsolete.

Table 1.3 Categories, fit indices and acceptable values for “good fit”

Category	Fit index	Acceptable values
Absolute	Root Mean Square Error of Approximation (RMSEA)	<0.07 = Acceptable fit
	Standardized root mean square residual (SRMR)	<0.08 = Acceptable fit
Incremental	Tucker Lewis Index (TLI)	>0.9 = Acceptable fit
	Comparative Fit Index (CFI)	>0.9 = Acceptable fit

of difference between the relationships that are observed in the data and the relationships implied by the model. Conversely, Incremental Fit Indices aim to compare the relationships implied by the model to a ‘null’ or independence model where no relationships are implied. Regardless of the category a fit index falls into, their overall goal is to produce a measure of ‘fit’ that can be assessed by the researcher against a range of heuristics that exist within the literature, these are briefly reported below in Table 1.3 for the particular fit indices employed within this book.

These indices serve a dual purpose in SEM. Firstly, they can provide empirical evidence in relation to the theoretical plausibility of a proposed model. Secondly, they can be employed as a basis from which to modify or even reconceptualise a proposed model. For example, they can be used to compare two alternative models grounded in two opposing theories, or through the use of ‘Lagrange Multiplier tests’ they can be employed to determine whether the fit of a given model could be improved by specifying a slightly different set of relationships between variables within it.

1.9.1 Graphical Representations

Due to the complexity of the method (i.e. the analysis of multiple relationships and multiple forms of relationships), it is common practice to convey SEM graphically via “path diagrams”. In many ways, interpreting these diagrams is somewhat intuitive even for those relatively unfamiliar with quantitative methodology, as they hold many commonalities with the commonly encountered “flow-chart”. Regardless, it is important to briefly cover their interpretation as the various shapes and symbols have specific meanings which convey specific theoretical ideas and hypotheses. To aid in this process, we present three sample path diagrams relevant to the models employed within this book: a path model, a confirmatory factor model, and a combination of the two.

1.9.1.1 Path Models

Path models (found in Chaps. 6 and 10) are employed to model the relationships that may exist between a series of observed variables. There are four components that can be found within most path diagrams: observed variables (represented by rectangles),

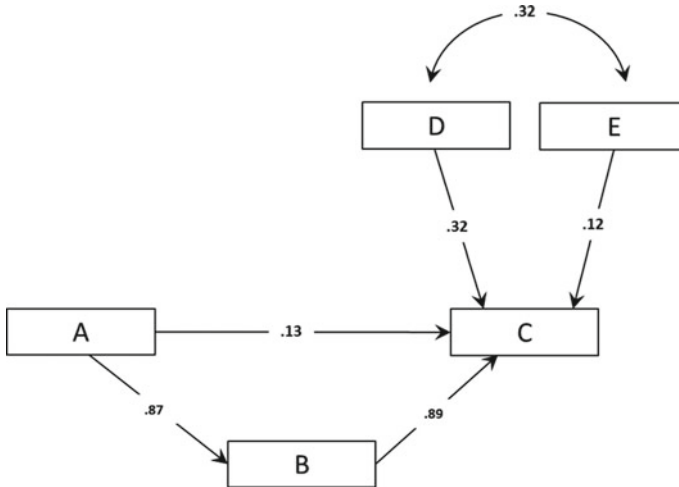


Fig. 1.1 Simple path model

directional paths (represented by single-headed arrows), covariances (represented by double-headed arrows), and coefficients (represented by numeric placed on arrows) that denote the effect size of one variable on another in standard deviations. For example, in Fig. 1.1, the coefficient 0.13 that exists on the arrow between A and C signifies that within the data, if the value of A changes by 1 standard deviation, the value of C changes by 0.13 standard deviations. Interpreting these models is a relatively straightforward process. For example, in the model displayed in Fig. 1.1, the following interpretation would be appropriate:

- A influences C both directly and indirectly (through its influence on B), the indirect influence (calculated by multiplying 0.87 and 0.83) is considerably stronger than the direct influence
- D and E directly influence C, the influence of D on C is stronger than the influence of E on C
- D and E are related but do not directly influence one another.⁴

1.9.1.2 Confirmatory Factor Models

Confirmatory Factor models are most commonly found in the instrument design / validation literature. Confirmatory Factor models are not shown in the book, but it is useful to consider them here because the discussion of them is pertinent to combination models. Somewhat more complex than path models, they employ latent

⁴ This form of relationship is often difficult to conceptualise for those less familiar with quantitative methodologies. One way to do so is to consider the following example: in the summer months, people tend to spend more time outside and consume more ice-cream however to hypothesise that one of these phenomena directly influences the other would be contentious at best.

variables (i.e. unobserved variables that are measured by their influence on observed variables) with the overall goal of testing two broad sets of hypothesis. Firstly, how effectively do the observed variables measure the latent variables, and secondly (if multiple latent variables are employed), how statistically distinct these are from one another. Just as they are in path models, observed variables are represented as rectangles; where their interpretation differs is the meaning of the coefficients that are placed on the arrows between these and latent variables which are represented by ellipses. Although they are mathematically similar and to some extent still represent the strength of the relationships that exist between these variables, in the context of Confirmatory Factor Models, they are perhaps better, though, of in terms of how well the observed variable measures the latent variable. Ranging from 0 to 1,⁵ the closer a coefficient is to 1, the better it measures the latent variable. To this end, it is commonly accepted in the literature that coefficients below 0.5 demonstrate relatively poor measurement, the observed variables employed to measure a latent variable should explain more than 50% of the variance in the latent variable,⁶ and the variance explained by the observed variables for one latent variable should exceed the strength of the relationship (covariance) that exists between two latent variables⁷ (Schumacker & Lomax, 2010). With this information to hand, interpreting these models is yet again a relatively straightforward process. For example, in regard to the model presented in Fig. 1.2 we could conclude the following:

- Observed variables a1, a2, and a3 are relatively good measures of the latent variable A. Of these, a3 is the best.
- Observed variables b2 and b3 are relatively good measures of the latent variable B however b1 is not.
- The variance explained by the combination of observed variables for each Latent variable exceeds 50%
- There is a relatively strong relationship (covariance) between the latent variables A and B however it does not exceed the variance explained by their respective observed variables.

1.9.1.3 Combination Models⁸

In this form of SEM model, both Path Models and Confirmatory Factor Models are employed within a broader model. Combination models are found in Chaps. 14, 18 and 20. Interpreting these forms of model is simply a matter of drawing together the

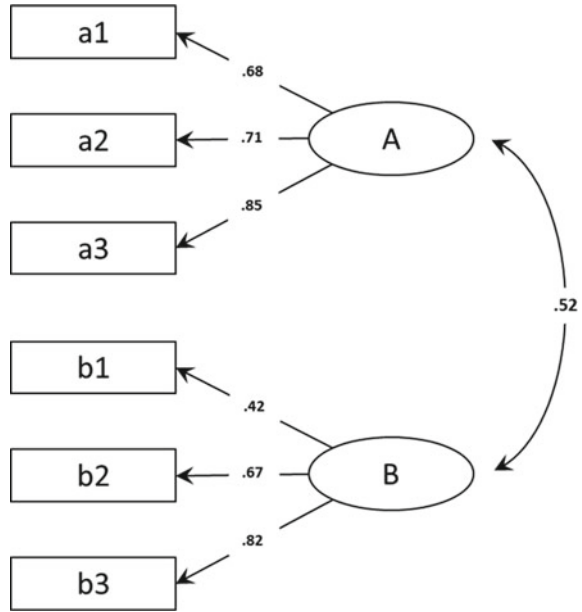
⁵ It is worth noting that in some instances (e.g. where an item on a questionnaire is 'reverse coded') these coefficients will have a range of -1 to 0 however this phenomena does not occur within the current volume.

⁶ This measure is more formally referred to as Average Variance Extracted (AVE).

⁷ More formally, the squared correlation coefficient should exceed the AVE for each latent variable.

⁸ These are often simply referred to as SEM models in the literature however we have adopted an alternative terminology to avoid potential confusion.

Fig. 1.2 Sample confirmatory factor model



knowledge previously presented as all symbols, notation and theoretical underpinnings apply in an identical manner. For example, in our final model presented below (Fig. 1.3) the following interpretation would be appropriate:

- The observed variables a1, a2 and a3 are all relatively good measures of the latent variable A just as the observed variables b1, b2 and b3 are relatively good measures of the latent variable B and the observed variables c1, c2 and c3 are relatively good measures of the latent variable C.
- The latent variable A has a direct influence and an indirect influence on the latent variable C, the indirect influence is stronger (i.e. 0.19 vs 0.13).
- The observed variables X and Y are related to each other but do not directly influence each other (i.e. they co-vary). They do, however, have influences on the latent variable C.

1.10 Conclusion

When the book was being designed, there was a clear intention to produce a coherent volume with a thesis or argument which builds progressively through the book. Chapter authors have readily cooperated in achieving this aim. As a result, the introduction to the book, provided by this chapter, provides a valuable roadmap to enable the reader to navigate through the volume and follow the developing thesis.

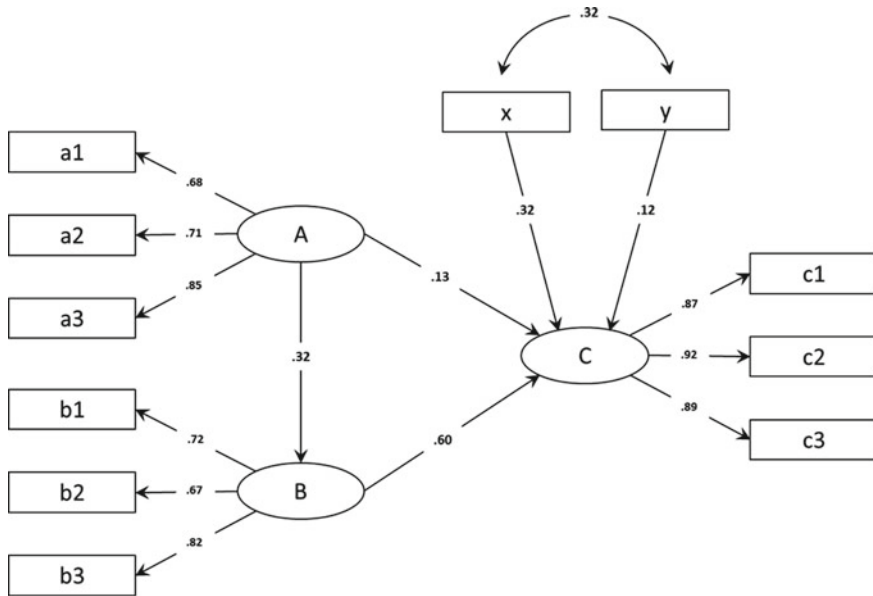


Fig. 1.3 Sample combination model

The three parts of the book are closely related, but may appeal predominantly to those with particular interests. The first part is about the expansion and diversification of higher education and the characteristics of the diversified student body. This part may be the primary interest for those who follow the equity agenda. The second part focuses on student support services and on supporting the retention and success of students. The third part is the one which will be of most significance to those with an interest in online and blended learning and teaching.

Nine chapters of the book derived findings from a common qualitative dataset. It has, therefore, made sense to provide detailed information, in this chapter, about the gathering of data for this dataset, its present preliminary analysis and the construction of a coded database. Chapters which make use of the qualitative database, therefore, need only provide information relevant to the analysis for that chapter, rather than constantly repeat the detailed information.

The final part of the chapter provides a guide to the interpretation of SEM; a sophisticated statistical technique capable of analysing complex multivariate models or phenomena. While many readers might feel that using SEM might be beyond them, the diagrammatic representations of models are readily understandable. This is particularly important, as the models of retention and success and of the teacher providing support to online and blended learners are central to the book.

References

- Bada, S. O., & Olusegun, S. (2015). Constructivism learning theory: A paradigm for teaching and learning. *Journal of Research & Method in Education*, 5(6), 66–70. <https://doi.org/10.9790/7388-05616670>
- Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research*, 26(13), 1802–1811. <https://doi.org/10.1177/1049732316654870>
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597. <https://doi.org/10.1080/2159676X.2019.1628806>
- Bryman, A., Becker, S., & Sempik, J. (2008). Quality criteria for quantitative, qualitative and mixed methods research: A view from social policy. *International Journal of Social Research Methodology*, 11(4), 261–276. <https://doi.org/10.1080/13645570701401644>
- Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage.
- Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage.
- Department of Education, Employment and Training (DEET). (1990). *A fair chance for all*. AGPS.
- Dziuban, C. D., Hartman, J. L., & Moskal, P. D. (2004). Blended learning. *Educause Center for Applied Research Bulletin*, 2004(7), 1–44.
- Eldh, A. C., Årestedt, L., & Berterö, C. (2020). Quotations in qualitative studies: Reflections on constituents, custom, and purpose. *International Journal of Qualitative Methods*, 19. <https://doi.org/10.1177/1609406920969268>
- Elliott, V. (2018). Thinking about the coding process in qualitative data analysis. *The Qualitative Report*, 23(11), 2850–2861. <https://doi.org/10.46743/2160-3715/2018.3560>
- Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report*, 20(9), 1408. <https://doi.org/10.46743/2160-3715/2015.2281>
- Ganapathy, M. (2016). Qualitative data analysis: Making it easy for nurse researcher. *International Journal of Nursing Education*, 8(2), 106–110. <https://doi.org/10.5958/0974-9357.2016.00057.X>
- Hesse-Biber, S. N., & Leavy, P. (2010). *The practice of qualitative research*. Sage.
- Hox, J., & Bechger, T. (1998). An introduction to structural equation modeling. *Family Science Review*, 11, 354–373.
- Kallio, H., Pietilä, A. M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: Developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing*, 72(12), 2954–2965. <https://doi.org/10.1111/jan.13031>
- Kelloway, K. (1995). Structural equation modelling in perspective. *Journal of Organizational Behaviour*, 16(3), 215–224.
- Kember, D., & Ellis, R. A. (Eds.). (2022). *Admission and success for low SES university students: Report on a HEPPP 2018 National Priorities Pool Project*. Department of Education and Training.
- Kennedy, D. M. (2016). Is it any clearer? Generic qualitative inquiry and the VSAIEEDC model of data analysis. *The Qualitative Report*, 21(8), 1369–1379. <https://doi.org/10.46743/2160-3715/2016.2444>
- Lindgren, B. M., Lundman, B., & Graneheim, U. H. (2020). Abstraction and interpretation during the qualitative content analysis process. *International Journal of Nursing Studies*, 108, 103632. <https://doi.org/10.1016/j.ijnurstu.2020.103632>
- Lochmiller, C. R. (2021). Conducting thematic analysis with qualitative data. *Qualitative Report*, 26(6), 2029–2044. <https://doi.org/10.46743/2160-3715/2021.5008>
- Melis Cin, F., Madge, C., Long, D., Breines, M., & Tapiwa Beatrice Dalu, M. (2021). Transnational online research: Recognising multiple contexts in Skype-to-phone interviews. *Qualitative Research*, (advance online publication), 14687941211024824. <https://doi.org/10.1177/14687941211024824>
- Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.

- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.
- Roulston, K. (2018). Triangulation in qualitative research. Retrieved from <https://qualpage.com/2018/01/18/triangulation-in-qualitative-research/>
- Schumacker, R., & Lomax, R. (2010). *Structural equation modeling*. Routledge.
- Sturges, J. E., & Hanrahan, K. J. (2004). Comparing telephone and face-to-face qualitative interviewing: A research note. *Qualitative Research*, 4(1), 107–118. <https://doi.org/10.1177/1468794104041110>
- Wright, S. (1934). The method of path coefficients. *The Annals of Mathematical Statistics*, 5(3), 161–215.

Part I
Adopting a Contemporary Model
of Admission and Course Delivery
to Expand and Diversify the Student Intake

Chapter 2

Review of Schemes for Admitting a More Diverse Student Body in Higher Education



Sarah Fischer  and Sue Kilpatrick 

Abstract Higher education worldwide has expanded its intake to attract a more diverse student enrolment in order to achieve both social equity and the economic imperatives driving an innovative knowledge-based economy. In Australia, since 1985, numerous government reviews and reports have provided a strong mandate to expand access to higher education. As such, Australian universities have had to adjust their admissions practices to engage with this newly diverse population. A range of factors have been found to affect admission and success for low SES university students, and indeed, a diverse student body in on-campus courses including: the demographic makeup of the diverse student body (student characteristics); admissions criteria; student preparation and support programs before and/or during study; and other university-specific factors relating to pedagogy of learning and teaching and/or non-academic supports. This chapter comprises a literature review that will explore the research primarily associated with university admissions for low SES students and will focus on efforts pertaining to increasing access to higher education. Chapter 8 will expand on this literature review and focus on support needed for participating in higher education, including online study, and support for successful transition out of higher education.

2.1 Overview

Higher education worldwide has expanded its intake to attract a more diverse student enrolment in order to achieve both social equity and the economic imperatives driving an innovative knowledge-based economy. In 1990, the Australian Department of Education, Employment and Training's influential document, *A Fair Chance for All*, described six key equity groups in higher education. These equity groups include

S. Fischer (✉) · S. Kilpatrick
Faculty of Education, University of Tasmania, Launceston, TAS, Australia
e-mail: sarah.fischer@utas.edu.au

S. Kilpatrick
e-mail: sue.kilpatrick@utas.edu.au

students who identify as indigenous; are from low SES (socioeconomic status) locations; who report a disability; are women in non-traditional disciplinary areas; are from regional and remote locations; and are from non-English speaking backgrounds (NESB). These categories continue to be used today to describe disadvantaged groups and are emphasised in government equity policy and reviews as requiring particular support. In turn, academic researchers and the academic literature have also focused on these groups due to government funding following government policy. It should be noted, and is discussed in more detail below, that low SES students, in particular, invariably involve a range of diversification challenges. This is known as ‘intersectionality’ (Archer, 2018; Kyriakides et al., 2018; McMaster & Cook, 2019; Pham, 2019). Low SES is one of the main groups associated with expand of higher education following from the Bradley Review (2008), and for this reason, this review focuses primarily on the literature addressing low SES disadvantage. It should be noted that low SES is defined differently in different studies, generally dependent on country definitions.

To engage with this newly diverse population, universities have had to alter their responses to admission and retention processes (Bawa, 2016; Higher Education Standards Panel, 2017) and have put in place many programs, as well as entry and ongoing processes, to begin to tackle the “wicked problem” of high attrition/low retention rates of students identified as low SES when they enter university (Beer & Lawson, 2018; Campbell & Narayan, 2017). The national figures hide considerable differences in admission, retention and success among Australian universities (Higher Education Standards Panel, 2017; O’Shea, 2018). Those differences can be expected to be due to a range of factors: the makeup of the low socio-economic status (SES) student cohort (student characteristics); admissions criteria; student preparation and support programs before and/or during study; and other university-specific factors relating to pedagogy of learning and teaching and/or non-academic supports. The need for an exploration of the complexities and nuances around the reasons why such issues occur for low SES students is therefore vital to avoid the loss of such a diverse and necessary student population (Becker, 2008; Edwards, 2008; Gale & Tranter, 2011). This chapter comprises a review of literature prior to COVID-19 regarding how universities which have expanded and diversified their student intake have shifted their admission and retention processes. It describes a variety of approaches across a spectrum from traditional to contemporary models of admission and course delivery. As described in Chapter 1, the shift to a contemporary model is of significance as a similar shift occurred with the onset of COVID-19.

2.1.1 Scope of Review

Using Bennett et al.’s (2015) Equity Initiatives framework from their Critical Interventions Framework Part 2 as a guide, this literature review will explore the research associated with university admissions and success for a more diverse student body and will focus mainly on efforts pertaining to the second and third stages of the

student life cycle (Bennett et al., 2015), which include accessing higher education and participating in higher education. This framework, which updates and expands on Naylor et al. (2013) was chosen because of its thoroughness and high level of detail. There have been a limited number of literature reviews previously conducted that focus on aspects of admissions and retention. Those that do exist will be discussed under the relevant section below.

2.1.2 Australian Equity Policy Context

Australia has a long history of expanding access to education through a variety of mechanisms (Duckworth et al. 2009; Forsyth, 2015). However, it is only in more recent years that formal equity policies have been implemented (Koshy, 2018). A recent Productivity Commission (2019) report shows that the expansion efforts have only been partially successful. While some equity groups (low SES, defined in the Australian context according to neighbourhood (postcode), not individual characteristics, and first in family) have expanded their participation in higher education, others (indigenous people and people from regional and remote areas) have not. The level of participation among people from these equity groups still remains much lower than participation among people who do not come from disadvantaged backgrounds. Another key finding of this latest report is that while access has improved, many students are arriving ill-prepared both academically and in terms of understanding how to navigate university life and struggle with their studies. More support is needed for these students once they have commenced their studies. The recent Table 2.1 gives an overview of the major Australian higher education equity policies and reviews from 1985 to 2019. The Table provides key points of Australia's journey to understand where disadvantage lies in higher education access and participation, and how policy has attempted to expand access and participation for the identified equity groups.

2.2 Factors Affecting Admission and Success for a Diverse Student Body

2.2.1 Low SES and Intersectionality

Like many people from disadvantaged populations, low SES students come to universities experiencing multiple forms of disadvantage (Berliner, 2006; McMaster & Cook, 2019) which they are typically expected to solve through their own agency (Berlant, 2011; Bok, 2010; Zipin et al., 2015). SES is, of course, one nested dimension of social disadvantage which includes what are now understood to be “intersections”

Table 2.1 Summary of key Australian higher education equity policies and reviews

Year	Policy	Key points ¹
1985	Review funded by the Commonwealth Tertiary Education Commission in collaboration with the National Aboriginal Education Committee to examine Indigenous Higher Education Centres (The Jordan Report)	Reviewed Indigenous Higher Education Centres to improve their operation within universities to increase Indigenous participation
1985	Report of the House of Representatives Select Committee on Aboriginal education (The Blanchard Report)	Highlights the educational disadvantage experienced by Indigenous Australians, shift from 'welfare' to 'equity'
1985	Aboriginal Participation Initiative (API)	Funding additional places for Indigenous people in higher education
1988	Higher Education: A Policy Statement White Paper (Dawkins report)	Enhance the 'quality, diversity and equity of access' to education while improving the 'international competitiveness' of Australian universities
1988	Report of the Aboriginal Education Policy Task Force	Outlined current situation of Aboriginal education
1990	Higher Education: The Challenge Ahead (Dawkins)	Identified six under-represented populations, termed 'equity' groups: people who identify as Indigenous, from low SES (socioeconomic status) backgrounds, from regional or remote areas, from non-English speaking backgrounds (NESB), with a disability, who are women in non-traditional areas of study
1990	A fair chance for all (DEET)	Reviewed under-represented groups in higher education
1989/1990	National Aboriginal Education Policy (NAEP)	Identified 21 goals to work towards the aims of involving Aboriginal people in educational decision-making; equity of education access and participation; equitable and appropriate outcomes
1995	Final Report of the National Review of Education for Aboriginal and Torres Strait Islander Peoples and Government Response	Identified that educational inequality still existed for Indigenous Australians; government responded with additional funds and expanded tutorial assistance
2002	Review of Higher Education in Australia (Nelson Review)	Forms basis for current higher education financing landscape
2003	Higher Education Support Act	Main act governing higher education in Australia, defines three groups of institutions for funding purposes

(continued)

¹ (Department of Education and Training, 2015; Wilks & Wilson, 2014).

Table 2.1 (continued)

Year	Policy	Key points
2008	Melbourne Declaration on Educational Goals for Young Australians	Goals include improving educational outcomes for Indigenous youth and disadvantaged young Australians, especially those from low socioeconomic backgrounds and strengthening accountability and transparency
2008	Review of Australian Higher Education (The Bradley Report)	High impact on expansion of university participation and approach to student equity. Reshaped higher education and formed the foundation of the Demand Driven System
2009	Transforming Australia's Higher Education System	Funding reform to support high quality teaching and learning, improve access and outcomes for students from low socio-economic backgrounds, build new links between universities and disadvantaged schools, reward institutions for meeting agreed quality and equity outcomes, improve resourcing for research and invest in world class tertiary education infrastructure
2011	Higher Education Base Funding Review (Lomax-Smith Review)	Suggested funding reform, but Gillard government did not make major changes, increased HEPPP funding
2012	Review of Higher Education Access and Outcomes for Aboriginal and Torres Strait Islanders (Behrendt Review)	Built on Bradley Review's identification of the need to address access and outcomes in higher education for Aboriginal and Torres Strait Islander people
2014	Review of the Demand Driven Funding System (Kemp Norton Review)	Suggested extending the demand driven system will expand opportunities for students
2016	Higher Education Standards Panel's (HESP) Improving the Transparency of Higher Education Admissions	Made recommendations to achieve greater transparency in higher education admissions
2018	Independent Review into Regional, Rural and Remote Education (Halsey Review)	Initiatives in response include: Expanding accessibility of sub-bachelor programs, expanding accessibility for bachelor students at regional study hubs, improving access to Youth Allowance for Regional Students
2019	Australian Qualifications Framework (AQF) Review (Noonan Review)	Recommended significant reforms to reinvigorate the connection between vocational education and training (VET) and higher education

(continued)

Table 2.1 (continued)

Year	Policy	Key points
2019	Regional Rural and Remote Education Strategy (Naphthine Review)	Found that there is a significant city-country divide when it comes to accessing, participating and attaining tertiary education
2019	Review of the Higher Education Provider Category Standards (Coaldrake Review)	Sought to simplify provider categories in order to increase diversity of providers in higher education
2019	Performance-Based Funding for the Commonwealth Grant Scheme (Wellings Model)	Initiates a shift away from demand driven system to allow universities to focus on 'core business' and recommends linking funding to achievement of outcomes in areas including equity student performance

of different forms of social position and identity (Archer, 2018; Kyriakides et al., 2018; McMaster & Cook, 2019; Pham, 2019). There is very little literature that relates intersectionality to issues of attrition and retention, and we see the research in this book as leading toward more detailed analysis of the complex technological, geographic, economic, social, psychological and cultural factors influencing persistence. While recognising the complexity of these issues, this study adopts the Australian Government's definition of low SES students: the population of domestic students from statistical areas identified in the bottom 25% of the Australian population based on the latest available census data from the Australian Bureau of Statistics (ABS), with the SES value derived from the ABS's Socio Economic Indexes for Areas (SEIFA) Index of Education and Occupation (DESE, n.d.), measuring levels of SES on a purely economic/location basis, as recorded in the participating universities' student data.

As we point out above, low SES typically involves multiple intersections of disadvantage that present complex barriers to living and working in a university environment. Low SES is often used as a proxy measure for other forms of disadvantage. Students from low SES backgrounds are often unable to commit to full-time study (Bowl & Bathmaker, 2016). Work, family, social and other commitments (House-Peters et al., 2019), rurality and travel distances (Corbett, 2000; Halsey, 2018), access to financial aid (Devlin & McKay, 2018; Qayyum et al., 2019), culture and opportunity costs (Guenther & Fogarty, 2018) present barriers to relocation on or near a university campus. Indeed, the dichotomous enrolment classification of full- and part-time students has become of questionable relevance. Many students taking a full-time load now have some degree of part-time employment to make ends meet (Allen & Farber, 2018; Edwards & McMillan, 2015), while some work full-time, taking as many units as they can manage (James et al., 2010). Some students located off-campus are commuters, who travel to classes. Others do not attend face to face classes because: they live too remotely; they cannot manage the time commitment; the expense is too great; or, because they prefer the convenience of more flexible

study modes. For many such students, universities have had to provide modes of study which enable study at a distance from the campus.

Walpole (2007) conducted a comprehensive literature review focusing on economically and educationally challenged higher education students in the United States. She began by reviewing the definitions of socioeconomic status and its various components, and then moved on to students' access to, experiences in, and outcomes of attending university. Because there are multiple aspects to a student's social identity, Walpole examines how these aspects, such as race and gender, intersect to create unique situations. She concludes with a close look at how institutions have responded to and made policies affecting these low SES students in the United States.

A large section of the literature focuses on factors affecting success of low SES students. These factors or characteristics can be broken down into three broad levels of characteristics. The first is student or individual-level characteristics such as, prior attainment, gender, ethnicity, aspirations and attitude (Browman & Destin, 2016), disability or being the first in family to attend university (Brosnan et al., 2016; Luzeckyj et al., 2017; O'Shea et al., 2015, 2018; O'Shea, 2015, 2016a, 2018; Spiegler & Bednarek, 2013; Wainwright & Watts, 2019). Another category is family-level characteristics such as SES level, parental involvement, and parental aspirations (Alloway et al., 2004; Al-Yousef, 2009; Anderson & Minke, 2007; Archer et al., 2014; Bæck, 2017; Epstein, 2010; Fischer et al., 2017; Gale & Tranter, 2011; Gerard & Booth, 2015; Kilpatrick et al., 2019). And finally, school-level characteristics may affect the success of low SES students such as type of school (for example, primary/high school, single-sex schools), school resources, and class size (Higher Education Standards Panel, 2017).

2.2.2 *Geography*

Researchers (Dockery et al., 2016; Halsey, 2018; Parker et al., 2016; Pollard, 2017) argue that geography also affects educational attainment. Parker et al. (2016, p. 1156) found that "distance is significantly associated with both university expectations and entrance, with an especially large impact upon young people from low socioeconomic backgrounds" in Australia. However, they also found that distance to a university-led outreach session was not closely related to young people's attendance of such a session. This indicates that there are likely other variables, or costs, that are affecting aspirations and attainment. These costs may be financial, social or emotional. Jury et al. (2017) also examined the emotional costs, identifying psychological barriers to success.

In 2018, the Australian government an independent review into regional, rural and remote education was conducted (Halsey, 2018). In terms of attainment, it found that there was a persistent relationship between distance and educational attainment; there was a decreasing trend in attainment with increasing remoteness. However, the review also found that this may be due to people not applying to study in the first place rather than receiving or accepting an offer to study. This is consistent

with the findings in Parker et al. (2016). Although the review recognised that efforts focused on “which focus on raising aspirations, relationships, networks, values, and reasons for hope” (Parker et al., 2016, p. 22) may be useful, government initiatives for increasing educational attainment were largely financial in focus. Kilpatrick et al. (2019) point out that both aspiration and knowledge and support are needed to access higher education.

2.2.3 Social and Family Capital

Building on the idea that there are a wide variety of factors affecting admissions and success for a more diverse student body, there is a portion of the literature that examines how choices are made to attend university. Cardak et al. (2015) developed various models of the university application and admission process in order to highlight a range of predictions around SES and the application procedure. With these models, the authors suggest that it is possible to predict how application behaviour varies across students by SES and whether low SES students experience any disadvantage in the application process. The algorithm at the heart of the model takes into consideration the various stages of the application process and the availability of information to applicants. Using this model, Cardak et al. (2015) found that “there is growing evidence that part of the SES gradient in university attendance is related to disadvantaged students struggling with the application process” (p. 61) and that it is due to lack of information about universities and/or programs. Low SES students typically have less informed networks to draw upon.

Similarly, other researchers, such as Smith (2011) and Macqueen (2018) have also examined how family and social capital affect the success of non-traditional students in higher education. Smith (2011) explored how students from low SES backgrounds form higher education aspirations through various social networks. She found that ‘hot knowledge’, which was obtained through friends and family, especially siblings, was more effective at influencing post-school aspirations than ‘cold knowledge’, which was received through website and pamphlets. Smith (2011) recommends universities use a ‘people-rich’ approach when reaching out to students from low SES background rather than relying on website and pamphlets.

More recently, Macqueen (2018) also looked at how disadvantaged students use social and cultural capital in order to succeed in higher education. She found that while families and friends of low SES students may not have experienced university themselves and could not provide ‘hot knowledge’ (Yosso, 2005) about higher education, they were still able to offer support in other forms such as reading over their work and just being there. The capital accessed by these students does not fit traditional views. Macqueen (2018, p. 47) cautions that “the benefits of such insight cannot be underestimated for its ability to ease settling in, especially in first year, and progress throughout study years.” Support provided by families can make a significant difference for non-traditional students in higher education.

2.3 Paths of Entry to University

While the first part of the literature review has focused on various factors affecting low SES students' higher education aspirations and their decisions to seek higher education, this next section will examine the literature that covers the various routes of entry to university and enabling programs such as pathway programs, foundation programs, outreach to VET/adults, and bridging programs. For example, pre-degree preparation programs or alternate pathway entry programs are offered for those who may not meet entry criteria; and language and academic literacy services are offered to assist with any academic skills development students might need. Alongside these more specialised programs run programs that are commonly found at most universities such as those for student orientation, processes for the identification of students at risk, scholarship offerings, and other forms of financial support and payment options.

2.3.1 *Enabling Programs*

Pathway programs are a type of enabling program used by Australian universities to improve access, participation and success for students who have been historically underrepresented in the Australian higher education system (McKay et al., 2018). It is important to note that some Australian universities use the term 'pathway program' as an official name for a specific program, while other Australian universities use the term as a catchall for any type of enabling program offered. While there is a wide variety of types of enabling programs, researchers (Harrell & Forney, 2003; Johns et al., 2016; McKay et al., 2018; O'Rourke et al., 2019; Pitman et al., 2016; Mahsood Shah et al., 2014; Vernon et al., 2019) agree that these programs are important, whatever form they take. This portion of the literature review will focus on the broader group enabling, or pathway, programs.

In a National Centre for Student Equity in Higher Education (NCSEHE) report, Pitman et al. (2016) describe the broad variety of enabling programs and examine the effectiveness of the various pathways to higher education for disadvantaged students. They report three key findings. First, there is a wide range of types of programs currently available in Australia and that these programs differ in course length, content, and mode of delivery. Second, they found that there is a lack of transparency and transferability about these programs which may be preventing students from enrolling in them as it is unclear to the students which institutions, other than their own, will recognise their studies and admit them to undergraduate programs. They suggest that a nationally recognised system would ease this problem by facilitating a greater consistency of program design. This in turn "would increase opportunities for institutions to recognise enabling programs other than their own for the purposes of admission to further undergraduate studies" (Pitman et al., 2016, p. 9). Third, they found that with the exception of programs for Aboriginal Australians and Torres Strait Islanders, there are limited restrictions on who can access these

programs, including what types of domestic students can apply and prior academic performance. In addition, they developed a typology of enabling programs to help practitioners and students navigate the options and illustrate the variety of programs.

In a subsequent paper, McKay et al. (2018) build on these key points from the NCSEHE report and offer additional suggestions for improvement, including a call for clarity on what an enabling program is and does and what qualifies for Australian Government funding. They also add to their findings from the earlier study and state “enabling programs produce more resilient and persistent learners, although their success rates remain an area for focused improvement; enabling pathways are primarily functioning as a pathway for equity groups; and, finally, those engaged in enabling programs are focused on a higher education pathway—and these programs give them the confidence they need to progress and succeed” (p. 59).

Two highly successful programs aimed at encouraging university entry by low SES high school students prior to university enrolment are AIME, targeting Indigenous students (Harwood et al., 2014), and In2Uni, specifically for low SES students (Harwood et al., 2014).

O’Rourke et al. (2019) compared and mapped the curriculum of three Australian university open-access enabling programs and echo the call for clarity, this time within the programs themselves. They suggest that the enabling programs would be improved by establishing attributes specific to the programs rather than attempting to align them with university-wide graduate attributes. Enabling programs are distinct from the rest of the university and this should be considered when developing curriculum. In addition, they propose that critical intangible aspects of enabling programs, such as developing a deeper understanding of the processes of learning, were not always presented in the course materials. Programs could be improved if these broader unit outcomes were made to be measurable.

Mentoring programs can have a positive impact on widening participation for some students. Vernon et al. (2019, p. 489) conducted research to determine whether academic encouragement from teachers would increase higher education aspirations and whether there were differences dependent on the pathway of study (direct from school vs enabling program). They found that academic encouragement did indeed increase school satisfaction and in turn, higher education aspirations, but only for university entry-qualified school students. Similarly, Lynch et al. (2015) suggest that a mentoring program that targets and offers support to year 9 students could be used to facilitate widening participation in higher education.

The recruitment and retention of Aboriginal and Torres Strait Islander students is another area of focus in the literature. Fowler et al. (2018) examines the process one Western Australian university used to promote the recruitment, retention and academic success of these students, looking specifically at impacts on curricula, academic staff and the Aboriginal and Torres Strait Islander students. This study found that a collaborative process and culturally responsive curriculum were key to successfully creating change and enhancing the university experience for the Aboriginal and Torres Strait Islander students.

Fleming and Grace (2015) conducted a case study of the University of Canberra’s ACT-Indigenous Success (ACT-IS) program, which aims to increase participation

in higher education for students from rural and regional, and low SES backgrounds. This program was developed to assist indigenous and low SES students to consider higher education options and to work toward the achievement of such goals. For school years 7–10 the program focus was to reach and build student aspiration, transitioning for years 11 and 12 to a focus on building skills and confidence. The authors report strong partnerships with diverse stakeholders, such as government education departments, university preparatory colleges and university indigenous education units, contributed positively to this program. They also suggest that programs aimed at improving indigenous outcomes in higher education must recognise the important role that indigenous people and indigenous knowledge can contribute.

Another area covered in the academic literature regarding pathway programs is the academic's role in these programs. Often, the cohorts that progress through enabling programs are diverse and complex. Crawford and Johns (2018) consider the role academics play in supporting these cohorts, including supporting the well-being and mental health of students. They assert that while universities offer central counselling services, academic staff often provide a source of support and pastoral care. As such, their study explored the experiences of academic staff teaching in an enabling program including the types of support academic staff provided to students, how capable these staff thought they were of providing this support and the impacts of providing this support on the academic staff. They found that, in general, the academic staff had clear boundaries and lines of referral, so were not taking on counselling roles. However, providing support had negative impacts with academic staff mentioning feeling tired, distressed and unsettled. Crawford and Johns (2018) suggest more support needs to be provided to academic staff for this often-unrecognised role. Crawford et al. (2018, p. 23) also explored the “high ‘emotional labour demands’ of teaching a vulnerable cohort” and found that there were positive and negative impacts on the academic staff teaching in enabling programs. This study found that developing a community of care and along with witnessing the transformations of students worked to protect against staff burnout.

2.3.2 Vocational Studies

Another pathway to entering university in Australia is from vocational programs. Some students use studies in a vocational program as a steppingstone to enter further higher education studies at a university. Those students who enter university after completing studies through these programs may be allowed to enter with credit transfers and/or advance standing. O’Shea et al. (2012) suggest that what this entails for students who chose this path is not clear. Their study focuses on understanding why students chose this route and their transition to higher education at a university. It was found that the concept of advanced standing was not clear and confused students. The authors, as in other studies described above, call for transparency and clarity within universities regarding advanced standing and suggest that common frameworks and

approaches across institutions would contribute to a smoother transition for students. They also recommend that prior learning and skills achievement be recognised and celebrated.

2.3.3 *Mature Age Students*

A final section of the enabling program literature looks at mature age students and enabling programs aimed at supporting them (Christensen & Evamy, 2011; Heagney & Benson, 2017; Mallman & Lee, 2016; O’Shea, 2016a, 2016b). These are students who are aged 25 and above and do not enter university directly after completing secondary school. In Australia, there has been an increase in the number of mature age students attending university. As such researchers are seeking to understand the best ways to support this cohort. For example, Johns et al. (2016) conducted a longitudinal study that explored enabling programs aimed at rural, mature-aged students. This study, focused on the University Preparation Program (UPP) at the University of Tasmania, found that the benefits of enabling programs “extended beyond the individuals studying, to family and friends, and beyond. These broader benefits included an enhanced local skills base in key industry areas, and an increased awareness of the value of higher education within the community” (p. 69). For example, interview participants described how their participation in the program had a positive influence on the aspirations of their family members and others in their communities. UPP participants also felt the program prepared them well for further study and employment opportunities.

Christensen and Evamy (2011) describe the MAPs to Success program at the University of Western Australia and evaluates its success. The program aimed to achieve the best possible outcomes for mature age students enrolled in the University of Western Australia through a pathway program. They found that the ongoing information and support supplied to mature age students through this program had a positive impact on their outcomes. One area the authors highlight as being key in achieving success is the ‘demystifying of university culture’. By providing the mature age students with chances to develop their networks and learn university terminology, culture shock was lessened and transitions to university life were smoother.

2.4 Admission Practices

Alternative pathways for university admission have become more available in recent years, for the most part under the inclusive rubric of widening participation (McKay et al., 2018; Mahsood Shah & McKay, 2018). The ‘straight from school’ entry pathway is no longer the dominant entry point. It is now well understood that high participation education systems do not automatically create increased opportunity for all (Cantwell et al., 2018) and that the influence of SES and intersectionality persist.

Universities have responded by creating alternative entry schemes, giving credit for characteristics such as maturity and professional experience. Interviews and ‘aptitude’ or non-cognitive tests for some professional courses, such as UMAT (Undergraduate Medicine and Health Sciences Admission Test) for undergraduate medical entry and compulsory pre-admission tests for teaching students, have been introduced to supplement the traditional academic criteria of ATAR, Vocational Education Training qualifications and prior higher education results. Entry criteria vary considerably between universities and between courses and programs, and many universities offer bonus points on student ATAR scores to circumvent the impact of low SES and/or regional and remote status.

The Higher Education Standards Panel addresses the issue of transparency in the higher education admissions process with a consultative report (Australian Government Department of Education and Training, 2016). This report found that there were multiple bases used for admissions criteria into undergraduate courses of study and that surprisingly, in 2014, the majority of students were admitted not on the basis of their ATAR score, but rather based on “previous vocational or higher education study, mature age entry special provisions and the like” (p. 2). The panel recognised that transparency needed to be improved in the higher education admissions processes and identified 10 principles that should underlie any initiatives to do so.

Along with increased transparency and widening participation, the concept of universal design (Burgstahler, 2009; Elias, 2010; Kilpatrick et al., 2017; King-Sears, 2009; Story, 1998), which originated in the field of architecture, has been expanded to various aspects of the field of education, including admissions. Czarnecki (2018) investigates how the recent push to increase the participation of domestic students in Australian universities by expanding the number of domestic places available has affected inequality of access to university. He refers to this push as ‘universal access’ and found that “expansion has not dramatically changed the differentiated access within different socioeconomic groups” (p. 501) as had been expected when the initiative started. This study found that those who benefitted most from the expansion were youth in the upper-service class, not the middle- nor lower-service classes. Forsyth (2015) also looked at the effects of expansion efforts in the Australian university system, but from a historical perspective. She examined two periods of growth, the 1940s/1950s and the 1960s/1970s, in an effort to understand what strategies universities were using to try to expand participation beyond the ‘traditional elite.’ She found that while each push to expand targeted a different group of people, in both cases tensions surrounding admissions criteria were present with concerns raised about lowering standards of students and thus, academic pursuits at the universities. Recently, Craft (2019, p. 1372) conducted a study at a satellite campus of an Australian university to see if these concerns were valid and found that there was not a strong relationship between SES and first year success, leading to the conclusion that “universities can recruit low SES students to meet governmental policy, without the concerns of increased failure rates”.

In a comparative study, Wellings (2015) explains that both the UK and Australia have recently pushed to expand participation in higher education. He notes that the context for this push differs, but universities in the two countries have used similar

approaches to this effort. Where Australian universities use the ATAR as the dominant criterion for entry, UK universities similar entry standards based on A-level grades. When the governments moved to expand participation in university and relaxed these standards for entry and removed caps on student number controls, universities saw an increase in students entering university directly from school rather than through pathway programs and a “rapid growth in low socio-economic status (SES) students coming to regional universities” (p. 74) in both countries.

Pitman (2016) conducted an analysis of the admission policies of Australia’s public universities to critically examine the use and application of notions of fairness. He identified three types of fairness: merit-based (generally academic merit), procedural (places same expectations, requirements and calculations on everyone) and normative (seeks to select the ‘right’ students, as opposed to the ‘best’ students [p. 1208]). While merit-based fairness was identified as the preferred understanding of fairness, normative fairness was found to dominate the admissions process.

Another section of the literature looks at admissions practices for refugees and people seeking asylum in Australia. For example, Webb et al. (2019) explain that most equity and social inclusion understandings assume stable domestic populations within nations and do not account for refugees or people seeking asylum. They continue on to explain that these two groups often have high educational aspirations, but face university admissions practices that favour the dominant national culture. This study found that while in some cases, ‘workarounds’ were used to find solutions for refugees and people seeking asylum, new thinking and policy changes were needed to include this group of people.

2.4.1 Alternative Selection Criteria

Selection criteria for admission to university are frequently studied by academic researchers. There are several aspects to this topic covered in the literature including ATAR scores and their use, best practices and policies, recognition and prior learning, and innovative practices for inclusion. There are also examples from overseas that can be looked to for improving Australian practices. These topics will be summarised below.

Part of the admissions literature focuses on specific admission tools, such as the Australian Tertiary Admissions Rank (ATAR) (Blyth, 2014; Li & Dockery, 2015; May, 2011). For example, Blyth (2014) concluded that although the ATAR has been used for many years as a standard criterion for entry into university and is likely to continue to be used, its use will not be sufficient to meet participation targets set by the Australian government. She encourages universities to use alternative entry mechanisms such as pathway programs with preferential entry permitted upon completion. May (2011) came to a similar conclusion regarding the exclusive use of the ATAR for admissions in her research. She suggests that a combination of factors should be considered for admission “such as ‘class rank’ or ‘school rank’ models; the

use of entrance portfolios; TAFE or VET qualifications; or completion of university foundation, pathway or bridging programs” (p. 14).

Li and Dockery (2015) conducted a study to determine whether a school’s SES had an effect on students’ ATAR scores. Their results show that while a school’s SES did have an effect on a students’ ATAR scores, with non-government school students having slightly higher ATAR scores, “most school characteristics and school resourcing measures do not appear to have any substantial or meaningful impact on students’ performance in university” (p. 92). They suggest that this supports the argument that efforts to broaden low SES participation in university should be continued.

Other researchers (Cardak & Ryan, 2009; Cardak et al., 2015) are focused on innovative practices for inclusion. In a National Centre for Student Equity in Higher Education report, Cardak et al. (2015) ask whether low SES applicants are disadvantaged by current Australian university admissions practices. Their study focuses on the sources of inequalities in the application and admissions processes. They found that upon learning their ATAR score, high SES students were more likely to adjust their applications than low SES students, which is consistent with international data that shows low SES students struggle with the application process. High SES students understand the application process better and are better equipped to respond to new information that comes to light during that process, giving them an advantage. The authors suggest that policies aimed at bridging the gap should focus on the final phases of the application process and help low SES students better understand how to modify their application as they receive new information, such as their ATAR scores. They also make clear that this should complement other efforts to improve high school achievement, not replace them.

2.4.2 Good Practice/Policy

Other research looks at good practices and policies for admissions. Peacock et al. (2014) examine how Australian student equity policy is articulated and put into practice at the university level. In this study, policy is traced through three different sites in the same Australian state, two differently positioned universities and one group of equity practitioners. The authors found that the site of policy enactment can affect policy production. Institutions will adapt and translate the policy to address local priorities.

2.4.3 Recognition of Prior Learning (RPL)

Recognition of prior learning is another topic within the university admissions literature. As universities seek to expand participation, researchers (Fox, 2005; Pitman, 2009; Pitman & Vidovich, 2012; Toop & Burleigh, 1993; Webb et al., 2019) seek to

understand best practices, policies and barriers for recognizing prior learning. This has evolved over time, as can be seen in the literature.

Over 25 years ago, in a Commonwealth Department of Employment, Education and Training report, Toop and Burleigh (1993) discuss key principles of RPL, review the recent developments in RPL, and describe issues surrounding the implementation of RPL, including resource-efficient approaches, attitudinal barriers, costs, and standards for recognition. The authors concluded the report with a description of best practices at the time for each stage of the recognition of prior learning, including publicity, initial support and counselling, applications, assessment, post-assessment guidance, and certification. This report shows that RPL is not a new issue within Australian universities.

Moving forward in time, Fox (2005) presents issues connected to adult learners and RPL. She recognises that the number of adult learners seeking higher education at Australian universities is increasing and declares that it is time for Australian universities to establish practices surrounding recognition of prior learning that are transparent and consistent. Pitman (2009) examines Australian policies pertaining to the recognition of prior learning and suggests that while there have been universities have built barriers to RPL in the past, they are now actively working towards developing and promoting RPL. Amongst Australian universities, Pitman and Vidovich (2012) assert there is no common consensus about recognition of prior learning “equity or quality across the sector, as each university interprets the two concepts for its own benefit” (p. 761). They state that the Australian government says the two concepts should be given equal emphasis and weighting, but an analysis of the discourse reveals that quality is given more weight. More recently, Webb et al. (2019) examine RPL in relation to refugees and people seeking asylum and conclude that Australian universities need to revise policies to properly account for this particular group of people.

2.4.4 Examples from Overseas

Finally, there is a section of the literature that examines admissions practices from outside Australia, particularly from the United States. While the admissions and university systems may be different from those in Australia, the results of these studies may be looked to for alternative approaches. For example, there are several recently published studies that examine how admission practices at selective American colleges affect low-SES students (Bastedo & Bowman, 2017; Bastedo et al., 2018; Bowman & Bastedo, 2018). These studies show that holistic review, or the degree to which an admissions officer understood the context of an applicant from a low SES background, affects the likelihood of an applicant from a low SES background being admitted. For example, Bastedo and Bowman (2017, p. 430) found that “admissions officers from historically underrepresented groups were more likely to admit low-SES applicants, whereas participants with more work experience and

who were employed at their alma mater provided less equitable recommendations.” Breland et al. (1995) provides an older, yet comprehensive study of admission policies and practices in the United States. Smith (2001, 2008) also looks at admissions practices in the United States and how they can be improved for low SES African American and Latino students. Among other factors, Smith noted that if a university admissions office was familiar with the secondary school a low SES applicant attended, it increased the likelihood of that student being accepted.

Beyond the United States, China’s special admissions practices are described by Niu and Wan (2018). These special admission policies have been introduced in recent years to “increase access to elite universities for disadvantaged students from rural areas and less developed inland regions” (p. 63). In general, under these policies universities were required to increase their admissions from low SES areas and decrease them from more advantaged areas. This involved accepting students with lower scores on college admission exams. The authors found that these efforts have been successful in creating equal access and students admitted with lower college admission exam scores performed well in university, despite not scoring as high on admission exams.

Burke and McManus (2011) examine art admissions processes in the context of the UK’s push to expand low SES participation in university. As Pitman (2016) found in Australia, Burke and McManus (2011) observe that the terms ‘fairness’ and ‘transparency’ are often conflated by admissions policies and thus, fail to adequately address the inequities in the processes for low SES applicants. The authors suggest that this leads to potential in students not being recognised or mis-recognised and applicants being excluded during the selection process. They argue that in order to rectify this, policy and practitioners need to move from focusing on how to improve the disadvantaged students to “involving those in the positions of authority and power to subject their assumptions and expectation to critique, to challenge discourses of difference, derision and inequality” (p. 710).

2.5 Conclusions

2.5.1 *Enabling Programs*

There have been a wide range of initiatives to widen participation and provide access and the academic literature provides a thorough overview of factors affecting admission and success of equity group students, with enabling programs being especially well studied. However, while it is important to have options, a national framework would be helpful to provide consistency and clarity across institutions.

2.5.2 Admissions

There has been limited research into the impact of the complex interaction of broadened admissions practices that aim to create a more diverse student body. As described above, there is a need for transparency and clarity within and across universities regarding advanced standing. Common frameworks and approaches across institutions would contribute to a smoother transition for students. Additionally, researchers are discovering that low SES students are disadvantaged by the application process for a variety of reasons. This is an issue that should be considered and addressed by universities.

References

- Allen, J., & Farber, S. (2018). How time-use and transportation barriers limit on-campus participation of university students. *Travel Behaviour and Society*, 13, 174–182. <https://doi.org/10.1016/j.tbs.2018.08.003>
- Alloway, N., Gilbert, P., Gilbert, R., & Muspratt, S. (2004). *Factors impacting on student aspirations and expectations in regional Australia*. Australia Department of Education, Science and Training.
- Al-Yousef, H. (2009). ‘They know nothing about university—Neither of them went’: The effect of parents’ level of education on their involvement in their daughters’ higher education choices. *Compare: A Journal of Comparative and International Education*, 39(6), 783–798. <https://doi.org/10.1080/03057920902913909>
- Anderson, K. J., & Minke, K. M. (2007). Parent involvement in education: Toward an understanding of parents’ decision making. *The Journal of Educational Research*, 5, 311.
- Archer, L. (2018). An intersectional approach to classed injustices in education: Gender, ethnicity, ‘heavy’ funds of knowledge and working-class students’ struggles for intelligibility in the classroom. In R. Simmons & J. Smyth (Eds.), *Education and working-class youth: Reshaping the politics of inclusion* (pp. 155–179). Springer International Publishing. https://doi.org/10.1007/978-3-319-90671-3_7
- Archer, L., DeWitt, J., & Wong, B. (2014). Spheres of influence: What shapes young people’s aspirations at age 12/13 and what are the implications for education policy? *Journal of Education Policy*, 29(1), 58–85.
- Australian Government Department of Education and Training. (2016). *Higher education standards panel: Consultation on the transparency of higher education admissions processes*. Australian Government Department of Education and Training.
- Bæck, U.-D. (2017). It is the air that we breathe. Academic socialization as a key component for understanding how parents influence children’s schooling. *Nordic Journal of Studies in Educational Policy*, 3, 1–10. <https://doi.org/10.1080/20020317.2017.1372008>
- Bastedo, M. N., & Bowman, N. A. (2017). Improving Admission of Low-SES students at selective colleges: Results from an experimental simulation. *Educational Researcher*, 46(2), 67–77. <https://doi.org/10.3102/0013189X17699373>
- Bastedo, M. N., Bowman, N. A., Glasener, K. M., & Kelly, J. L. (2018). What are we talking about when we talk about holistic review? Selective college admissions and its effects on low-SES students. *The Journal of Higher Education*, 89(5), 782–805. <https://doi.org/10.1080/00221546.2018.1442633>
- Bawa, P. (2016). Retention in online courses: Exploring issues and solutions—A literature review. *SAGE Open*, 6(1), 215824401562177. <https://doi.org/10.1177/2158244015621777>

- Becker, G. S. (2008). *Human capital: A theoretical and empirical analysis, with special reference to education*. University of Chicago Press.
- Beer, C., & Lawson, C. (2018). Framing attrition in higher education: A complex problem. *Journal of Further and Higher Education*, 42(4), 497–508. <https://doi.org/10.1080/0309877X.2017.1301402>
- Bennett, A., Naylor, R., Mellor, K., Brett, M., Gore, J., Harvey, A., James, R., Munn, B., Smith, M., & Whitty, G. (2015). *The critical interventions framework part 2: Equity initiatives in Australian higher education: A review of evidence of impact* (p. 118). Curtin University, National Centre for Student Equity in Higher Education. https://www.ncsehe.edu.au/wp-content/uploads/2018/06/23_UoN_AnnaBennett_Supplied_Part2.pdf
- Berlant, L. G. (2011). *Cruel optimism*. Duke University Press (Morris Miller Main HN 59.2 .B464 2011).
- Berliner, D. C. (2006). Our impoverished view of educational reform. *Teachers College Record*, 108(6), 949–995.
- Blyth, K. (2014). Selection methods for undergraduate admissions in Australia. Does the Australian predominate entry scheme the Australian Tertiary Admissions Rank (ATAR) have a future? *Journal of Higher Education Policy & Management*, 36(3), 268–278. <https://doi.org/10.1080/01587919.2014.899049>
- Bok, J. (2010). The capacity to aspire to higher education: ‘It’s like making them do a play without a script.’ *Critical Studies in Education*, 51(2), 163–178. <https://doi.org/10.1080/17508481003731042>
- Bowl, M., & Bathmaker, A. M. (2016). ‘Non-traditional’ students and diversity in higher education. In *Routledge handbook of the sociology of higher education*. Routledge. <https://doi.org/10.4324/9781315772233-13>
- Bowman, N., & Bastedo, M. (2018). What role may admissions office diversity and practices play in equitable decisions? *Research in Higher Education*, 59(4), 430–447. <https://doi.org/10.1007/s11162-017-9468-9>
- Bradley, D., Noonan, P., Nugent, H., & Scales, B. (2008). *Review of Australian higher education: Discussion paper*. Department of Education, Employment and Workplace Relations.
- Breland, H., Maxey, J., McLure, G., Valiga, M., Boatwright, M., Ganley, V., & Jenkins, L. (1995). *Challenges in college admissions. A report of a survey of undergraduate admissions policies, practices, and procedures* (No. 978-0-929851-37-2). American Association of College Registrars and Admissions Officers.
- Brosnan, C., Southgate, E., Outram, S., Lempp, H., Wright, S., Saxby, T., Harris, G., Bennett, A., & Kelly, B. (2016). Experiences of medical students who are first in family to attend university. *Medical Education*, 50(8), 842–851. <https://doi.org/10.1111/medu.12995>
- Browman, A. S., & Destin, M. (2016). The effects of a warm or chilly climate toward socioeconomic diversity on academic motivation and self-concept. *Personality and Social Psychology Bulletin*, 42(2), 172–187. <https://doi.org/10.1177/0146167215619379>
- Burgstahler, S. (2009). *Universal design in education: Principles and applications* (p. 6). University of Washington.
- Burke, P. J., & McManus, J. (Eds.). (2011). Art for a few: Exclusions and misrecognitions in higher education admissions practices. *Discourse*, 32(5), 699–712.
- Campbell, K., & Narayan, B. (2017). First-generation tertiary students: Access is not the same as support. *International Journal of Innovation*, 3(3), 18.
- Cantwell, B., Marginson, S., & Smolentseva, A. (Eds.). (2018). *High participation systems of higher education*. Oxford University Press.
- Cardak, B. A., & Ryan, C. (Eds.). (2009). Participation in higher education in Australia: Equity and access. *Economic Record*, 85(271). <https://doi.org/10.1111/j.1475-4932.2009.00570.x>
- Cardak, B. A., Bowden, M., & Bahtsevanoglou, J. (2015). *Are Low SES students disadvantaged in the university application process?* National Centre for Student Equity in Higher Education. <https://www.ncsehe.edu.au/wp-content/uploads/2015/11/Are-Low-SES-Students-Disadvantaged-in-the-University-Application-Process-November-2015.pdf>

- Christensen, L., & Evamy, S. (Eds.). (2011). MAPS to success: Improving the first year experience of alternative entry mature age students. *International Journal of the First Year in Higher Education*, 2(2). <https://login.ezproxy.utas.edu.au/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edsaed&AN=rmitplus188019&site=eds-live>
- Corbett, M. J. (2000). *Learning to leave: The irony of schooling in a coastal community*. University of British Columbia. <https://doi.org/10.14288/1.0055496>
- Craft, J. (2019). Academic performance of low SES students at an Australian university satellite campus. *Studies in Higher Education*, 44(8), 1372–1385. <https://doi.org/10.1080/03075079.2018.1440382>
- Crawford, N., & Johns, S. (2018). An academic's role? Supporting student wellbeing in pre-university enabling programs. *Journal of University Teaching and Learning Practice*, 15(3).
- Crawford, N., Olds, A., Liscandro, J., Jaceglav, M., Westacott, M., & Osenieks, L. (2018). Emotional labour demands in enabling education: A qualitative exploration of the unique challenges and protective factors. *Student Success*, 9(1), 23. <https://doi.org/10.5204/ssj.v9i1.430>
- Czarnecki, K. (2018). Less inequality through universal access? Socioeconomic background of tertiary entrants in Australia after the expansion of university participation. *Higher Education: The International Journal of Higher Education Research*, 76(3), 501–518.
- Department of Education and Training. (2015). *Higher Education in Australia: A review of reviews from Dawkins to today*. Department of Education and Training. <https://doi.org/10.1057/hep.1988.32>
- Devlin, M., & McKay, J. (2018). The financial realities for students from low SES backgrounds at Australian regional universities. *Australian and International Journal of Rural Education*, 1, 121.
- Dockery, A. M., Seymour, R., & Koshy, P. (2016). Promoting low socio-economic participation in higher education: A comparison of area-based and individual measures. *Studies in Higher Education*, 41(9), 1692–1714. <https://doi.org/10.1080/03075079.2015.1020777>
- Duckworth, K., Akerman, R., Gutman, L., & Vorhaus, J. (2009). *Influences and leverages on low levels of attainment: A review of literature and policy initiatives* (Wider Benefits of Learning Research Report No. 31). <http://eprints.ioe.ac.uk/2040/1/Duckworth2009Influence.pdf>
- Edwards, D. (2008). What happens when supply lags behind demand? Disadvantaged students and the ever increasing competition for university places. *Journal of Higher Education Policy & Management*, 30(1), 3–13. <https://doi.org/10.1080/13600800701457905>
- Edwards, D., & McMillan, J. (2015). *Completing university in Australia* (p. 12). Australian Council for Educational Research.
- Elias, T. (2010). Universal instructional design principles for Moodle. *The International Review of Research in Open and Distributed Learning*, 11(2), 110–124. <https://doi.org/10.19173/irrodl.v11i2.869>
- Epstein, J. L. (2010). School/family/community partnerships: Caring for the children we share. *Phi Delta Kappan*, 3, 81.
- Fischer, S., Barnes, R. K., & Kilpatrick, S. (2017). Equipping parents to support their children's higher education aspirations: A design and evaluation tool. *Educational Review*, 1–20. <https://doi.org/10.1080/00131911.2017.1379472>
- Fleming, M. J., & Grace, D. M. (Eds.). (2015). Aspiration, achievement and access: The ACT-indigenous success pathway to university. *Learning Communities: International Journal of Learning in Social Contexts*, 17. <https://doi.org/10.18793/LCJ2015.17.07>
- Forsyth, H. (2015). Expanding higher education: Institutional responses in Australia from the post-war era to the 1970s. *Paedagogica Historica*, 51(3), 365–380. <https://doi.org/10.1080/00309230.2014.929592>
- Fowler, A. C., Ewens, B., Vafeas, C., Delves, L., Hayward, C., Nannup, N., & Baum, G. (2018). Closing the gap: A whole of school approach to Aboriginal and Torres Strait Islander inclusivity in higher education. *Nurse Education in Practice*, 30, 86–90. <https://doi.org/10.1016/j.nepr.2018.04.001>

- Fox, T. A. (2005). Adult learning and recognition of prior learning: The “white elephant” in Australian universities. *Australian Journal of Adult Learning*, 45(3), 352–370.
- Gale, T., & Tranter, D. (2011). Social justice in Australian higher education policy: An historical and conceptual account of student participation. *Critical Studies in Education*, 52(1), 29–46. <https://doi.org/10.1080/17508487.2011.536511>
- Gerard, J. M., & Booth, M. Z. (2015). Family and school influences on adolescents’ adjustment: The moderating role of youth hopefulness and aspirations for the future. *Journal of Adolescence*, 44, 1–16. <https://doi.org/10.1016/j.adolescence.2015.06.003>
- Guenther, J., & Fogarty, B. (2018). Examining remote Australian first nations boarding through capital theory lenses. *Critical Studies in Education*. <https://doi.org/10.1080/17508487.2018.1543201>
- Halsey, J. (2018). *Independent review into regional, rural and remote education final report*. Department of Education and Training. <https://www.education.gov.au/independent-review-regional-rural-and-remote-education>
- Harrell, P. E., & Forney, W. S. (2003). Ready or not, here we come: Retaining hispanic and first-generation students in postsecondary education. *Community College Journal of Research and Practice*, 27(2), 147–156. <https://doi.org/10.1080/713838112>
- Harwood, V., O’Shea, S. E., Howard, S. J., & Cliff, K. (2014). *Final report: Evaluation of the In2Uni program*. University of Wollongong.
- Heagney, M., & Benson, R. (2017). How mature-age students succeed in higher education: Implications for institutional support. *Journal of Higher Education Policy & Management*, 39(3), 216–234. <https://doi.org/10.1080/1360080X.2017.1300986>
- Higher Education Standards Panel. (2017). *Improving retention, completion and success in higher education* (p. 54). Australian Government.
- House-Peters, L., Del Casino, V., & Brooks, C. (2019). Dialogue, inquiry, and encounter: Critical geographies of online higher education. *Progress in Human Geography*, 43(1), 81–103. <https://doi.org/10.1177/0309132517735705>
- James, R., Krause, K., & Jennings, C. (2010). *The first year experience in Australian universities: Findings from 1994 to 2009*. Centre for the Study of Higher Education, The University of Melbourne.
- Johns, S., Crawford, N., Hawkins, C., Jarvis, L., Harris, M., & McCormack, D. (2016). Unlocking the potential within: A preliminary study of individual and community outcomes from a university enabling program in rural Australia. *Australian Journal of Adult Learning*, 56(1), 69–88.
- Jury, M., Smeding, A., Stephens, N. M., Nelson, J. E., Aelenei, C., & Darnon, C. (2017). The experience of low-SES students in higher education: Psychological barriers to success and interventions to reduce social-class inequality. *Journal of Social Issues*, 73(1), 23–41. <https://doi.org/10.1111/josi.12202>
- Kilpatrick, S., Katersky Barnes, R., Heath, J., Lovat, A., Kong, W.-C., Flittner, N., & Avitaia, S. (2019). Disruptions and bridges in rural Australia: Higher education aspiration to expectation of participation. *Higher Education Research & Development*, 38(3), 550–564. <https://doi.org/10.1080/07294360.2018.1556619>
- Kilpatrick, S., Johns, S., Barnes, R., Fischer, S., McLennan, D., & Magnussen, K. (2017). Exploring the retention and success of students with disability in Australian higher education. *International Journal of Inclusive Education*, 21(7), 747–762. <https://doi.org/10.1080/13603116.2016.1251980>
- King-Sears, M. (2009). Universal design for learning: Technology and pedagogy. *Learning Disability Quarterly*, 32(4), 199–201. <https://doi.org/10.2307/27740372>
- Koshy, P. M. (2018). *Equity policy and participation in Australian higher education*. Curtin University.
- Kyriakides, L., Creemers, B., & Charalambous, E. (2018). The impact of student characteristics on student achievement: A review of the literature. In L. Kyriakides, B. Creemers, & E. Charalambous (Eds.), *Equity and quality dimensions in educational effectiveness* (pp. 23–49). Springer International Publishing. https://doi.org/10.1007/978-3-319-72066-1_2

- Li, I. W., & Dockery, A. M. (2015). Does school socio-economic status influence university outcomes? *Australian Journal of Labour Economics*, 18(1), 75–94.
- Luzecykj, A., McCann, B., Graham, C., King, S., & McCann, J. (2017). Being first in family: Motivations and metaphors. *Higher Education Research & Development*, 36(6), 1237–1250. <https://doi.org/10.1080/07294360.2017.1300138>
- Lynch, J., Walker-Gibbs, B., & Herbert, S. (2015). Moving beyond a ‘bums-on-seats’ analysis of progress towards widening participation: Reflections on the context, design and evaluation of an Australian government-funded mentoring programme. *Journal of Higher Education Policy & Management*, 37(2), 144–158. <https://doi.org/10.1080/1360080X.2015.1019122>
- Macqueen, S. (2018). Family and social capital for the success of non-traditional students in higher education. *International Studies in Widening Participation*, 5(1), 14.
- Mallman, M., & Lee, H. (2016). Stigmatised learners: Mature-age students negotiating university culture. *British Journal of Sociology of Education*, 37(5), 684–701. <https://doi.org/10.1080/01425692.2014.973017>
- May, A. (Ed.). (2011). Widening the playing field. *Professional Educator*, 10(3).
- McKay, J., Pitman, T., Devlin, M., Trinidad, S., Harvey, A., & Brett, M. (2018). The use of enabling programs as a pathway to higher education by disadvantaged students in Australia. In C. I. Agosti & E. Bernat (Eds.), *University pathway programs: Local responses within a growing global trend* (pp. 45–66). Springer International Publishing. https://doi.org/10.1007/978-3-319-72505-5_3
- McMaster, N., & Cook, R. (2019). The contribution of intersectionality to quantitative research into educational inequalities. *Review of Education*, 7(2), 271.
- Naylor, R., Baik, C., & James, R. (2013). *Developing a critical interventions framework for advancing equity in Australian higher education* (p. 51). The University of Melbourne Centre for the Study of Higher Education.
- Niu, S. X., & Wan, G. (2018). The effectiveness and efficiency of China’s special admission policies: The case of X university. *Asia Pacific Education Review*, 19(1), 63–78.
- O’Rourke, J., Relf, B., & Crawford, N. (2019). Are we all on course? A curriculum mapping comparison of three Australian university open-access enabling programs. *Australian Journal of Adult Learning*, 59(1), 7–26.
- O’Shea, S. (2015). Filling up silences—First in family students, capital and university talk in the home. *International Journal of Lifelong Education*, 34(2), 139–155. <https://doi.org/10.1080/02601370.2014.980342>
- O’Shea, S. (2016a). Avoiding the manufacture of ‘sameness’: First-in-family students, cultural capital and the higher education environment. *Higher Education*, 72(1), 59–78. <https://doi.org/10.1007/s10734-015-9938-y>
- O’Shea, S. (2016b). Navigating the knowledge sets of older learners: Exploring the capitals of first-in-family mature age students. *Widening Participation & Lifelong Learning*, 18(3), 34–54. <https://doi.org/10.5456/WPLL.18.3.34>
- O’Shea, S. (2018). *The Churchill Fellowship to explore best practices in engaging and retaining students who are the first in their families to attend university*. The Winston Churchill Memorial Trust of Australia. http://www.firstinfamily.com.au/docs/SD13_3196_OShea_Report.pdf
- O’Shea, S., Lysaght, P., & Tanner, K. (2012). Stepping into higher education from the vocational education sector in Australia: Student perceptions and experiences. *Journal of Vocational Education & Training*, 64(3), 261–277. <https://doi.org/10.1080/13636820.2012.691532>
- O’Shea, S., May, J., & Stone, C. (2015). *Breaking the barriers: Supporting and engaging first-in-family university learners and their families*. Australian Government Office for Learning and Teaching.
- O’Shea, S., Stone, C., Delahunty, J., & May, J. (2018). Discourses of betterment and opportunity: Exploring the privileging of university attendance for first-in-family learners. *Studies in Higher Education*, 43(6), 1020–1033. <https://doi.org/10.1080/03075079.2016.1212325>
- Parker, P., Jerrim, J., Anders, J., & Astell-Burt, T. (2016). Does living closer to a university increase educational attainment? A longitudinal study of aspirations, university entry, and elite university

- enrolment of Australian youth. *Journal of Youth & Adolescence*, 45(6), 1156–1175. <https://doi.org/10.1007/s10964-015-0386-x>
- Peacock, D., Sellar, S., & Lingard, B. (2014). The activation, appropriation and practices of student-equity policy in Australian higher education. *Journal of Education Policy*, 29(3), 377–396. <https://doi.org/10.1080/02680939.2013.839829>
- Pham, L. (2019). Capital and capabilities in education: Re-examining Australia’s 2015 PISA performance and context assessment framework. *Policy Futures in Education*, 17(5), 599–617. <https://doi.org/10.1177/1478210318808615>
- Pitman, T., & Vidovich, L. (2012). Recognition of prior learning (RPL) policy in Australian higher education: The dynamics of position-taking. *Journal of Education Policy*, 27(6), 761–774.
- Pitman, T., Trinidad, S., Devlin, M., Harvey, A., Brett, M., & McKay, J. (2016). *Pathways to higher education: The efficacy of enabling and sub-bachelor pathways for disadvantaged students*. National Centre for Student Equity in Higher Education.
- Pitman, T. (2016). Understanding “fairness” in student selection: Are there differences and does it make a difference anyway? *Studies in Higher Education*, 41(7), 1203–1216. <https://doi.org/10.1080/03075079.2014.968545>
- Pitman, T. (2009). Recognition of prior learning: The accelerated rate of change in Australian universities. *Higher Education Research & Development*, 28(2), 227–240. <https://doi.org/10.1080/07294360902725082>
- Pollard, L. (2017). *Remote student university success: An analysis of policy and practice* (p. 64). National Centre for Student Equity in Higher Education.
- Productivity Commission. (2019). *The demand driven university system: A mixed report card*. Australian Productivity Commission. <https://www.pc.gov.au/research/completed/university-report-card/university-report-card.pdf>
- Qayyum, A., Zipf, S., Gungor, R., & Dillon, J. M. (2019). Financial aid and student persistence in online education in the United States. *Distance Education*, 40(1), 20–31.
- Shah, M., & McKay, J. (Eds.). (2018). *Achieving equity and quality in higher education—Global perspectives in an era of widening participation*. Palgrave Macmillan. <https://doi.org/10.5456/WPLL.16.3.36>
- Smith, L. (2011). Experiential “hot” knowledge and its influence on low-SES students’ capacities to aspire to higher education. *Critical Studies in Education*, 52(2), 165–177. <https://doi.org/10.1080/17508487.2011.572829>
- Smith, M. (2001). Low SES African American parents: Playing the college choice game on an unlevel field. *Journal of College Admission*, 171, 16.
- Smith, M. J. (2008). Four steps to a paradigm shift: Employing critical perspectives to improve outreach to low-SES African-American and Latino students and their parents. *Journal of College Admission*, 201, 17–23.
- Spiegler, T., & Bednarek, A. (2013). First-generation students—What we ask, what we know and what it means: An international review of the state of research. *International Studies in Sociology of Education*, 23(4), 318–337. <https://doi.org/10.1080/09620214.2013.815441>
- Story, M. F. (1998). Maximizing usability: The principles of universal design. *Assistive Technology*, 10(1), 4–12. <https://doi.org/10.1080/10400435.1998.10131955>
- Toop, L., & Burrell, J. (1993). *Arrangements for the Recognition of Prior Learning in Australia*.
- Vernon, L., Watson, S. J., Moore, W., & Seddon, S. (2019). University enabling programs while still at school: Supporting the transition of low-SES students from high school to university. *The Australian Educational Researcher*, 46(3), 489–509. <https://doi.org/10.1007/s13384-018-0288-5>
- Wainwright, E., & Watts, M. (2019). Social mobility in the slipstream: First-generation students’ narratives of university participation and family. *Educational Review*, 1–17. <https://doi.org/10.1080/00131911.2019.1566209>
- Walpole, M. (2007). Economically and educationally challenged students in higher education: Access to outcomes. *ASHE Higher Education Report*, 33(3), 1–113. <http://www3.interscience.wiley.com/browse/?type=JOURNAL>

- Webb, S., Dunwoodie, K., & Wilkinson, J. (2019). Unsettling equity frames in Australian universities to embrace people seeking asylum. *International Journal of Lifelong Education*, 38(1), 103–120.
- Wellings, P. (2015). The architecture and the plumbing: What features do the higher education systems in the UK and Australia have in common? *Perspectives: Policy and Practice in Higher Education*, 19(3), 71–78.
- Wilks, J., & Wilson, K. (2014). 'Can't be what you can't see': *The Transition of aboriginal and Torres Strait Islander students into higher education literature review 2014*. The University of Notre Dame.
- Yosso, T. J. (2005). Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race Ethnicity and Education*, 8(1), 69–91. <https://doi.org/10.1080/1361332052000341006>
- Zipin, L., Brennan, M., Sellar, S., & Gale, T. (2015). Educating for futures in marginalized regions: A sociological framework for rethinking and researching aspirations. *Educational Philosophy and Theory*, 47(3), 227–246. <https://doi.org/10.1080/00131857.2013.839376>

Chapter 3

Why Tasmania Has a Particular Need to Increase Educational Participation



Damon Thomas and Sue Kilpatrick

Abstract This chapter tells the story of education in Australia's island state of Tasmania with a focus on educational performance, engagement, and rates of youth criminal offences. It begins by presenting evidence of low educational participation rate in Tasmania, particularly at the levels of Years 11 and 12 and for tertiary education. The chapter then reports Tasmanian students' lack of educational engagement. Of all Australian states and territories, Tasmania has the highest rate of students who drop out of their schooling in Year 10. This position is particularly important since Part A of the book is about the expansion and diversification of the student intake to higher education. The next section, outlines concerning trends in Tasmanian primary and secondary school students' performance on Australia's only large-scale assessment, the National Assessment Program—Literacy and Numeracy tests, since testing began in 2008. The results emphasise Tasmanian students' poor educational performance relative to students in other Australian states and territories. Performance in key areas has actually declined when compared to results from a decade ago. The chapter then considers statistics of youth criminal offences in Tasmania, which are amongst the highest in Australia. Such activities are directly associated with lower rates of educational performance and engagement.

3.1 Introduction

The majority of the research reported in this book developed from two loosely-linked projects; based at or led from the University of Tasmania (UTAS). A substantial proportion of the research data were gathered from students at UTAS. UTAS is the only university in the state of Tasmania. This Chapter provides relevant information

D. Thomas (✉)
The University of Queensland, Brisbane, Queensland, Australia
e-mail: damon.thomas@uq.edu.au

S. Kilpatrick
University of Tasmania, Launceston, Tasmania, Australia
e-mail: sue.kilpatrick@utas.edu.au

about Tasmania to provide a contextual background to a number of the conceptual frameworks developed through the book.

According to the 2021 census (Australian Bureau of Statistics, 2022) the population of Tasmania was 557,571; the smallest of the six Australian states. Almost two thirds of the population of the state (309,000) lived outside the capital city area of Greater Hobart. By comparison, there is a greater proportion of the population concentrated in the capital cities of other states. As UTAS is the only university in Tasmania, its primary student recruiting base is from Tasmania. The population of the State, its distribution and the characteristics of the population are, therefore, of considerable relevance to issues discussed in the book.

As a consequence of the distributed population, UTAS has campuses in three cities in the State, in Hobart, Launceston and Burnie. The small distributed population of the State means that restricting offerings to courses taught through traditional on-campus classes would neither cater for the dispersed population nor result in viable enrolments for many courses. Distance education and online learning have been an option for many disciplines for some time. As is explained in Chaps. 1 and 4, courses were offered in the online mode well before the onset of Covid-19 saw online learning prevalent in universities worldwide.

The remainder of this chapter examines, in detail, statistics and the characteristics of the population related to education, which have a bearing on conceptual thematic frameworks central to the book. The chapter provides evidence to establish three positions which are of significance to a university which recruits the majority of its undergraduate students from the State.

Firstly, evidence is presented of low educational participation rates in Tasmania. This position is particularly important since Part A of the book is about the expansion and diversification of the student intake to higher education. UTAS is used as an example of a university which has adopted a contemporary model of admission and course delivery to expand and diversify the intake.

Secondly, there is evidence of low educational achievement in Tasmania. The significance of this statistic is that students admitted through a contemporary model of admission and course delivery will be less prepared for higher education than those entering universities with the traditional model of admission and course delivery. The book discusses the multiple associated challenges faced by the expanded and diversified intake.

Tasmania also lags other states on many social, economic and health indicators. While these may not be directly related to university participation, there is evidence that many of the adverse indicators are affected by low educational participation, engagement, and performance and it is possible that these are reciprocal relationships (Commonwealth of Australia, 2022). This position provides further justification for expanding educational participation, as in the long run, it should have some impact on the social, economic and health indicators.

3.2 Tasmanian Educational Participation

During the twentieth century the Tasmanian economy was dominated by mining and large industries attracted to the State by cheap hydroelectric power and protected from global competition by a wall of Australian Government tariffs (Scott, 2019). Manufacturing, particularly mineral processing, textile and paper production, agriculture, forestry and fishing, and the retail trade employed large numbers of people in low or semi-skilled jobs, many of which were relatively well paid (Australian Bureau of Statistics, 1999). While some jobs in these industries were located in the State capital, the economies of regional areas were dominated by jobs that needed no more than year 10 education. The Tasmanian education system was geared toward finishing school at Year 10, with Year 11 and 12 options in the government system only available in the four largest Tasmanian cities. In 1980 the retention rate for Tasmanian students from year 7 to year 12 was 26.9% compared 34.5% for Australia (Australian Bureau of Statistics, 1999).

By the 1990s the Tasmanian economy was in transition, manufacturing was in decline and the abundance of well paid, low and semi-skilled jobs was a thing of the past (Scott, 2019). After some years of poor performance, the Tasmanian economy has recovered to the extent that Tasmania is the best performing Australian state in 2022, and there is a shortage of skilled workers (Commsec, 2022). Educational participation has improved as Tasmanians respond to the need to have qualifications in order to get a good job. The retention rate for Tasmanian schools had risen to 68.1% by 2001 (Australia 73.4%) and 75.7% in 2021 (Australia 83.1%) (Australian Bureau of Statistics, 2022). The Tasmanian government raised the school leaving age to 18 or completion of Year 12 or attainment of a VET Certificate III from 2020. They implemented an extension of high schools to Year 12 from 2015 with all high and district schools offering Year 11 and 12 in 2022; however, the offering of both higher education and VET pathway subject choices remains limited in high and district schools (Department for Education, Children and Young People, 2022).

Higher education and vocational education and training participation have also increased over time. The impact of raising the school leaving age is evident in the proportion of 15–19-year-olds participating in education (Fig. 3.1), with the proportion of young Tasmanians studying close to the national average. Older Tasmanians aged 25+ appear to be making up for past lack of opportunities with the proportion of all older age groups at or exceeding the national average (see Fig. 3.1). The 20–24 age group still lags the Australian average, however.

The proportion of Tasmanians aged 25 and over who are studying for a qualification at Certificate III and above (that is, equivalent of an apprenticeship or above in the VET sector, or studying at higher education level), has increased since 2018, including during the COVID pandemic period. Over this time Tasmania has been above the national average (Fig. 3.2).

Fig. 3.1 Educational participation by state/territory by age group (Source of the data for the figures: Australian Bureau of Statistics [2022]. Education and Work, Australia, May 2021, Commonwealth of Australia, Canberra)

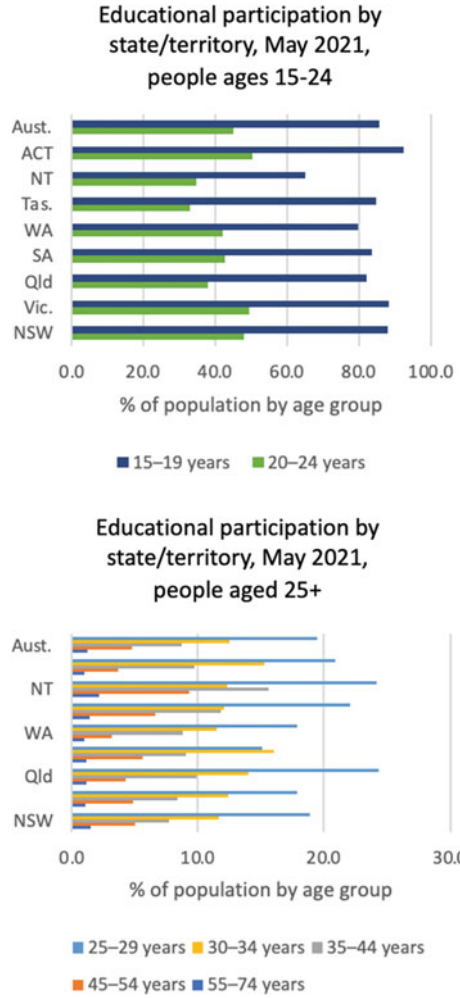


Figure 3.3 shows that post school educational participation for all types of institution has increased in Tasmania between 2011 and 2021. Regional Tasmania lags behind metropolitan areas in all types of participation, with VET participation falling and university participation virtually static.

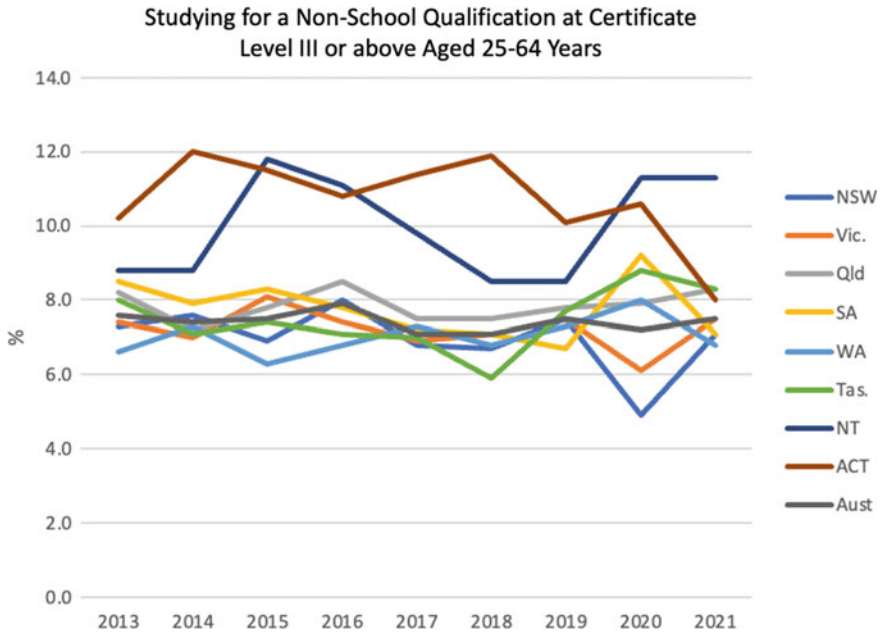


Fig. 3.2 Studying for a non-school qualification at certificate level III or above aged 25–64 years 2013–2021 (Source of the data for the figure: Australian Bureau of Statistics [2022]. Education and work, Australia, May 2021, Commonwealth of Australia, Canberra)

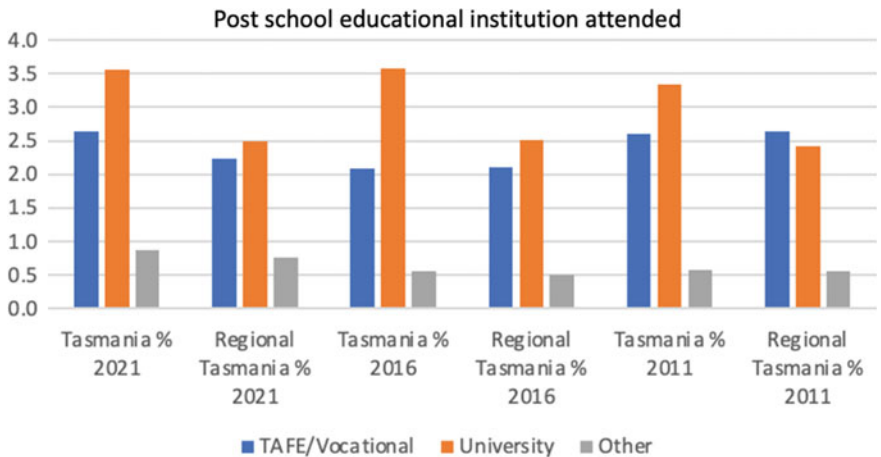


Fig. 3.3 Post school educational participation by type (Source of data for the figure: Australian Bureau of Statistics, Census of Population and Housing 2011, 2016 and 2021. Compiled and presented by.id [informed decisions] <http://www.id.com.au>)

3.3 Educational Achievement in Tasmania

Related to the low rates of educational participation in Tasmania is the relatively low educational achievement of Tasmanian students when compared with those in other Australian states and territories. This section begins by introducing Australia's only large-scale program of standardised assessments: the National Assessment Program – Literacy and Numeracy (NAPLAN), which tests students' reading, writing, language conventions, and numeracy skills. Tasmanian primary and secondary school students' performance across the tested year levels is outlined, relative to the performance of students in other Australian states and territories. Then, the literacy levels of working-age Tasmanians are considered to foreground challenges facing higher education providers in terms of admitting Tasmanian students directly from schools or from the community.

3.3.1 Educational Achievement of Young People

Developing strong foundational literacy and numeracy skills in the primary and secondary school years is key for success in senior secondary school (i.e., Years 11 and 12), entry into university, and the sorts of professional opportunities this creates (Coffin & Hewings, 2004; Schleppegrell, 2004, 2013). Yet Tasmanian students achievement and progress on the NAPLAN tests has been problematic since the test's introduction.

3.3.1.1 Low Literacy Skills and General School Performance

The NAPLAN tests were introduced in 2008 with the aim of assessing Australian students' literacy and numeracy skills in Years, 3, 5, 7, and 9 (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2016a). NAPLAN comprises four tests: reading, writing, language conventions, and numeracy. NAPLAN testing began as a paper-based test but has gradually transitioned to be administered online. The reading component of NAPLAN involves students completing a variety of multiple choice, short answer, and technology-enhanced questions (e.g., drag and drop), as they read and respond to short texts (ACARA, 2016b). The writing test presents students with a short prompt/stimulus and requires them to respond by composing either a narrative or a persuasive text (the genre required is revealed at the start of each test) (ACARA, 2016b). For the language conventions component, students are presented with a variety of texts and asked multiple choice, short answer, and technology-enhanced questions related to grammar, punctuation, and spelling (ACARA, 2016b). Aligned with the Australian Curriculum: Mathematics, the numeracy test assesses four proficiency strands (i.e., understanding, fluency, problem-solving, and reasoning) across the three content domains of mathematics

(i.e., number and algebra; measurement and geometry; and statistics and probability). Like the reading and language conventions tests, the numeracy test involves multiple choice, short answer, and technology-enhanced questions. As a final point, all NAPLAN tests apart from writing are *tailored* in that all students complete a set of initial questions but are then provided with other sets of questions that reflect their ability to correctly answer the initial questions. ACARA (2016c) argued that this approach provides a more engaging test for students, a more precise assessment of student performance, and gives students greater opportunity to demonstrate what they know.

It is not by chance that the designers of the NAPLAN tests based the assessments on these foundational literacy and numeracy skills. Reading, writing, and numeracy are arguably the most important skills children learn in their initial years of formal education, laying the groundwork for most learning and communicating that will occur in educational, social, and cultural contexts (Goos et al., 2011; Hochweber & Vieluf, 2018). These skills are basic to people's wellbeing, relationships, professional lives, and social engagement (MacArthur et al., 2016). Those who struggle to develop basic literacy and numeracy skills in the school years are likely to experience limited success in education, the workplace, and broader society.

Since NAPLAN testing began, Tasmanian students' literacy and numeracy scores have been low compared to students in other Australian states and territories. The NAPLAN annual report for 2021 (ACARA, 2021) showed that Tasmania, after the Northern Territory, had the lowest achievement in reading across all tested year levels, the lowest achievement in Year 9 writing (and low writing for Year 3, 5, and 7), the lowest achievement in language conventions across all tested year levels, and the lowest achievement in numeracy across all tested year levels.

Because NAPLAN testing has occurred for more than a decade, it is also possible to compare how Tasmanian students who completed the 2021 tests compared with Tasmanian students when testing began. In short, there has been a notable decline in literacy and numeracy achievement over time. As reported by Urban (2021), the decline in Tasmanian students' literacy skills in the secondary year levels has been alarming, with only 86.6% of Year 9 students reaching the national minimum standard for reading (down from 93% in 2008) and only 77.7% of Year 9 students reaching the national minimum standard for writing (down from 84.1% in 2008). The Tasmania 100 Percent Literacy Alliance (2021), a group of Tasmanian experts in various fields promoting the improvement of Tasmania's literacy outcomes, argued that:

The discrepancy between Tasmanian students' educational attainment and other states and territories cannot be explained by a high proportion of students from low SES backgrounds, nor by regionality or remoteness. Students from equally 'disadvantaged' areas in other parts of Australia achieve higher rates of educational attainment than Tasmanian students from high SES backgrounds. (p. 3)

Overall, the NAPLAN results suggest that Tasmania has some of the lowest performing students across all areas of testing, and their performance has generally declined since testing began. It is important to pay attention to the annual NAPLAN results because the Year 9 NAPLAN results are strong predictors of Year 11 and 12

achievement (Denny, 2021). The patterns of achievement shown in recent NAPLAN tests does not bode well for the educational opportunities of current cohorts of Tasmanian school students. Without strong foundational literacy and numeracy skills, it will be more difficult for these students to learn across the many disciplines in their formal education (Cutler & Graham, 2008), and to find meaningful employment as adults (Mackenzie & Veresov, 2013; Olson, 2020), particularly when the technological revolution in work and life has decreased opportunities for low skill and manual work (Denny, 2021). Tasmanian students' relatively low rates of educational achievement help to explain issues with educational engagement in the state.

3.3.2 *Educational Achievement of Working Age Tasmanians*

Low educational achievement in schools trickles through to create chronic literacy and numeracy issues amongst Tasmania's adult population. The Australian Bureau of Statistics (2013) found 47% of adult males and 53% of adult females to be functionally illiterate in Tasmania, meaning they do not possess the basic literacy skills to successfully parse important information from forms or comprehend newspaper articles. For the half of Tasmania's adult population who are functionally illiterate, it can be difficult to engage in basic daily tasks, let alone engaging in and contributing to social and cultural activities. In extreme cases, functional illiteracy can even be life threatening (e.g., misreading instructions on medicine).

The consequences of functional illiteracy for Tasmania's economy have been described as *wide-reaching* (Tasmania 100 Percent Literacy Alliance, 2021). Tasmania's key economic indicators consistently underperform when compared with national averages (Eslake, 2020). Across Australia, the Australian Industry Group (2018) found that virtually all employers are impacted by low literacy and numeracy skills in the workforce and that 39% were impacted to a serious level. Workers with low literacy and numeracy skills struggle to create and interpret workplace documents and to communicate appropriately within their teams. Denny (2021) stated that low educational achievement contributes to "time and/or material wastage, unsafe work practices, financial loss, teamwork challenges, and lack of confidence" (p. 20). Workplaces are typically not equipped to offer remediation when workers have low literacy and numeracy skills. For states like Tasmania, there are considerable social and economic costs associated with individuals completing school illiterate and/or innumerate. According to the Tasmanian Chamber of Commerce and Industry, educational participation and achievement are critical to increasing the living standards and productivity of Tasmania's population (Eslake, 2020).

3.4 Social, Economic and Health Indicators

Lower than average educational participation and achievement brings many challenges for Tasmanian society. This section explores several factors that contribute to these challenges, including Tasmanian students' high rates of developmental vulnerability in emotional maturity and language and cognitive skills, youth unemployment, and youth offences. Social mobility is turned to as a useful concept for understanding and potentially addressing such issues.

3.4.1 *Tasmanian Children Are Developmentally Vulnerable*

Every three years, the Australian Early Development Census (AEDC) is administered to collect data about early childhood development when children are starting school (Commonwealth of Australia, 2022). The AEDC has items that are split into the five key domains of physical health and wellbeing, social competence, emotional maturity, language and cognitive skills, and communication skills and general knowledge. These domains have been found to be strong predictors of later wellbeing, health, and academic outcome. The most recent AEDC was held in 2021, finding that 23.2% of Tasmanian children are developmentally vulnerable in one or more domain, and 11.9% are vulnerable in two or more domains. This is higher than the national averages of 22% and 11.4% respectively. Regarding specific domains, Tasmanian children are more likely than the national average to be vulnerable in the physical (11.1% vs. 9.8%), emotional (10.3% vs. 8.5%), and language and cognitive skills (9.2% vs. 7.3%) domains (Commonwealth of Australia, 2022). This is problematic since literacy and numeracy learning are underpinned by language and cognitive skills, and a child's readiness to learn is directly impacted by their emotional maturity (Tasmanian 100 Percent Literacy Alliance, 2021). Having low emotional maturity and language and cognitive skills at the start of school place many Tasmanian children at a considerable disadvantage when thinking about the need to develop foundational literacy and numeracy skills that will set them up for educational success and may go some way to explaining Tasmania's comparatively poor performance on national assessments.

3.4.1.1 Higher Rates of Youth Unemployment

Students who do not develop adequate literacy and numeracy skills at school may struggle to find employment as adults. Low levels of school attainment in Tasmania feed through into the highest levels of youth unemployment in Australia (OECD, 2017). This is especially problematic since Tasmania also has the highest rate of students who leave school in Year 10 (aged 16) (ABS, 2021a). This is despite new requirements for leaving school being introduced in 2020 that now require students

to complete Year 12, obtain a Certificate III, or turn 18. There is a cyclical nature to these societal issues, with one in four Tasmanian children growing up in a family where no parent works (Urban, 2021), children being developmentally vulnerable starting school, many students struggling to develop important literacy and numeracy skills at school, then leaving school early, and struggling to find meaningful paid employment.

The most recent data from State Growth Tasmania (2016) showed high rates of youth unemployment (aged 15–24) in major Tasmanian cities of Hobart (16.7%), Launceston (18.1%), and Devonport (18.7%). High unemployment and low literacy and numeracy achievement correlate with economic, civic, and democratic deficits: “Tasmania ranks at the bottom among Australian states on virtually every dimension of economic, social, and cultural performance” (West, 2013, p. 50), including the lowest incomes, highest rates of chronic disease, poorest longevity, highest rates of smoking and greatest obesity. A recent report found Tasmania to be the poorest state in Australia, with incomes 26% below the national average (Burke, 2021). School and tertiary education cannot be expected to provide instant solutions to these entrenched socio-economic realities for many Tasmanian families, but education constitutes a central component of any enhancement of young people’s future societal choices (Thomas & Brett, 2016).

3.4.1.2 Higher Rates of Youth Offences

Youth offences are a serious concern in Tasmania. According to the Australian Bureau of Statistics (ABS) (2021b) and the Australian Institute of Health and Welfare (2020), Tasmania ranks second (16.9%) among Australian states and territories in terms of youth offenders, a rate more than six times that of the third highest in Queensland (2.8%). In a 2018 ABC News interview, Tasmania Police revealed children were responsible for 29.4% of Tasmanian home burglaries, 23.4% of business burglaries, 41.8% of car break-ins, 24.4% of car thefts, 12.9% of assaults, and 15.3% of all serious crime. Youth crime in the state is exacerbated by low levels of educational performance and school retention, and high youth unemployment.

3.4.2 Social Mobility a Key Concept

Social mobility is a useful concept for describing the situation in Tasmania and considering how these deeply entrenched social issues might be addressed. DiPrete (1991) defined social mobility broadly as the movement of individuals, jobs, organisations, and labor markets. Focusing more on the individual, Favell and Recchi (2011) defined it as “the degree to which modern industrialized societies enable talented, ambitious individuals to move up in status” (p. 50). An individual’s social mobility helps to determine how they can move through systems of social hierarchy.

In Tasmania, social mobility has improved in the past four decades; however, the rate of this improvement has been slower than the national average (Denny, 2015). Since social mobility is what enables individuals to gain employment, be promoted to higher positions, and the many personal, health, and wellbeing advantages this brings, improving Tasmanian's social mobility might help to alleviate some of the concerning statistics described in this chapter. According to Denny (2015), "the catalyst for improved social mobility is tertiary education" (p. 7). Increasing Tasmania's essentially static rate of university participation (see Fig. 3.3) can be described as an important goal for education stakeholders in Tasmania.

3.5 Implications for the Remainder of the Book

A substantial proportion of the findings reported through the book were derived from data gathered at UTAS, as it has been central to the book to report research findings from a university which has adopted a contemporary model of admission and course delivery and, therefore, has had considerable experience of online teaching and learning. As the only university in Tasmania, the State has been the prime recruiting venue for UTAS. The data reported in this chapter, therefore, has profound implications for UTAS and for the discussion of research reported through the rest of this book. The remainder of this conclusion considers the data reported above and points ahead to where and how that data informs the discussion in the following chapters.

Part A of the book is concerned with the diversification and expansion of the student intake, facilitated by the adoption of a contemporary model of admission and course delivery. The data on educational participation in Tasmania provide both a rationale for the contemporary model and evidence of diversification of the intake.

Chapter 4 explains that the student body can be expanded and diversified by the adoption of three key elements of open learning, of which online learning is the most significant for the purposes of this book. The original rationale for UTAS offering many courses online was the small, dispersed population of Tasmania. Student numbers would not be viable if offerings were restricted to the on-campus mode. Online enrolments were a substantial proportion of enrolments prior to 2011. Figure 3.3 reflects the position that the expansion of the Tasmanian intake to university took place prior to 2011, with a small increase between 2011 and 2016 and then a levelling off.

Figures 3.1 and 3.2 provide evidence for the diversification of the intake. Both figures show that, while educational participation of the 15–20 age group lags the national level, in Tasmania, participation by those aged 25+ exceeds the national average. Participation by those aged 25+ is a key indicator of diversification of the student body. Chapter 5 presents case studies showing mature students, with commitments to employment and family responsibilities, facing multiple associated challenges while studying online in their homes. Chapter 7 discusses the coping mechanisms employed by students studying online in their home.

Figure 3.3 shows that participation by Tasmanians from regional areas, which is a significant proportion of the population, lags that from metropolitan areas. Chapter 6 discusses barriers to participation by rural, regional, and remote (RRR) students. It makes the case that the provision of online learning does facilitate RRR participation, but many barriers to participation remain. Part B of the book is about providing support for the retention and success of the expanded and diversified intake. The data in this chapter provide pointers to there being particular support needs for Tasmanian students.

The discussion of the diversification of the intake in Chaps. 4, 5, 6 and 7 shows that the student cohort will have quite different characteristics to those admitted by universities with traditional models of admission and course delivery (Chaps. 4 and 10). The differences between the characteristics of the student bodies in universities with contemporary and traditional models, suggest that the support needs will differ considerably.

The section on educational achievement in Tasmania has considerable implications for student support services. These data show performance in NASPLAN testing, of literacy and numeracy, by Tasmanian students is low compared to those in other states and territories. Furthermore, the levels of achievement show that a significant proportion Tasmanians will be ill-equipped for tertiary study, which surely implies that there will be particular support needs.

The nature of support service provision is examined in Chap. 11, which compares the student support services of a university with a contemporary model of admission and course delivery with those of three other universities ranged across the spectrum to the traditional end. Chapter 12 examines the perceptions, of blended and fully online learners, of student support services. The findings of these chapters are important, since Chaps. 12 and 19 argue that, to be effective, student support services need to be aligned with student needs.

The educational participation data reported relatively high levels of participation by Tasmanians in the 25 + age group. This book argues that this has been made possible by the availability of online learning. Chapters 8 and 12 provide evidence that online learners rely more on support from their teachers than do on-campus students. The model of how teachers can provide support to online students presented in Chaps. 14, 15 and 16, therefore, is highly relevant to the needs of Tasmanian students.

References

- Australian Bureau of Statistics. (1999). *Tasmanian year book 2000*. Commonwealth of Australia.
- Australian Bureau of Statistics. (2022). *Education and work, Australia, May 2021*. Commonwealth of Australia.
- Australian Bureau of Statistics. (2013). *Programme for the international assessment of adult competencies, Australia, 2011–2012*. <https://bit.ly/3zdlb6J>
- Australian Bureau of Statistics. (2021a). *Schools, Australia 2020*. <https://www.abs.gov.au/statistics/people/education/schools/latest-release>

- Australian Bureau of Statistics. (2021b). *Recorded crime—Offenders*. <https://bit.ly/3rjNJsw>
- Australian Curriculum, Assessment and Reporting Authority. (2016a). *Naplan—About*. <https://www.nap.edu.au/about>
- Australian Curriculum, Assessment and Reporting Authority. (2016b). *NAPLAN—What’s in the tests*. <https://www.nap.edu.au/naplan/whats-in-the-tests>
- Australian Curriculum, Assessment and Reporting Authority. (2016c). *Why NAP*. <https://www.nap.edu.au/about/why-nap>
- Australian Curriculum, Assessment and Reporting Authority. (2021). *NAPLAN National report for 2021*. <https://nap.edu.au/docs/default-source/default-document-library/2021-naplan-national-report.pdf>
- Australian Industry Group. (2018). *Skilling: A national imperative*. <https://bit.ly/2DBUWf1>
- Australian Institute of Health and Welfare. (2020). *Youth detention population in Australia 2020*. <https://bit.ly/3rl3srt>
- Burke, H. (2021, July 15). Tasmanian adults disproportionately affected by illiteracy. *The Mercury Newspaper*. <https://bit.ly/3exBWlo>
- Coffin, C., & Hewings, A. (2004). IELTS as preparation for tertiary writing: Distinctive interpersonal and textual strategies. In L. J. Ravelli & R. A. Ellis (Eds.), *Analysing academic writing: Contextualized frameworks* (pp. 153–171). Continuum.
- Commonwealth of Australia. (2022). About the Australian early development census (AEDC). <https://www.aecd.gov.au/about-the-aecd>
- Commsec. (2022). *State of the states—State and territory economic performance report October 2022* Edition 53. https://www.commsec.com.au/content/dam/EN/Campaigns_Native/stateofstates/October2022/CommSec_State_of_the_States_October_2022.pdf
- Cutler, L., & Graham, S. (2008). Primary grade writing instruction: A national survey. *Journal of Educational Psychology*, 100, 907–919. <https://doi.org/10.1037/a0012656>
- Denny, L. (2015). *Peter underwood centre horizons series: Improving social mobility in Tasmania and the role of education*. <https://blogs.utas.edu.au/education-transforms/tag/education/>
- Denny, L. (2021). In Summary: Analysis and discussion of 10 years of NAPLAN data—literacy and numeracy knowledge and skills in Tasmania. http://www.lisadenny.com.au/uploads/1/15/6/8/15682790/insummary_-_naplan_analysis.pdf
- Department for Education, Children and Young People. (2022). Years 11 and 12 Extension Schools, Department for Education, Children and Young People, Hobart. <https://www.decyp.tas.gov.au/students/school-colleges/years-11-12-extension-schools/>
- DiPrete, T. A. (1991). Social mobility and social structure [Reviewed by Ronald L. Breiger]. *Contemporary Sociology*, 20(5), 694–695.
- Eslake, S. (2020). *The 2020 Tasmania report*. <https://www.saulslake.info/wp-content/uploads/2020-TCCI-Report.pdf>
- Favell, A., & Recchi, E. (2011). Social mobility and spatial mobility. In A. Favell & V. Guiraudon (Eds.), *Sociology of the European Union* (pp. 50–75). Palgrave Macmillan.
- Goos, M., Dole, S., & Geiger, V. (2011). Improving numeracy education in rural schools: A professional development approach. *Mathematics Education Research Journal*, 23, 129–148. <https://doi.org/10.1007/s13394-011-0008-1>
- Hochweber, J., & Vieluf, S. (2018). Gender differences in reading achievement and enjoyment of reading: The role of perceived teacher quality. *The Journal of Educational Research*, 111(3), 268–283.
- Macarthur, C. A., Graham, S., & Fitzgerald, J. (2016). *Handbook of writing research* (2nd ed.). Guilford Press.
- Mackenzie, N. M., & Veresov, N. (2013). How drawing can support writing acquisition: Text construction in early writing from a Vygotskian perspective. *Australasian Journal of Early Childhood*, 38(4), 22–29.
- OECD. (2017). *Building skills for all in Australia: Policy insights from the survey of adult skills*. OECD Publishing.

- Olson, D. R. (2020). On the use and misuse of literacy: Comments on “The mind on paper.” *Interchange*, 51, 81–96. <https://doi.org/10.1007/s10780-020-09397-y>
- Schleppegrell, M. J. (2004). *The language of schooling: A functional linguistics perspective*. Lawrence Erlbaum Associates.
- Schleppegrell, M. J. (2013). The role of metalanguage in supporting academic language development. *Language Learning*, 63, 153–170.
- Scott, P. (2019). Australian microeconomic reform and Tasmania: An economic and social appraisal. *Marginality in Space—Past, Present and Future*, 335–347.
- State Growth Tasmania. (2016). *Youth unemployment rate (persons aged 15–24), 2016*. <https://atlas.id.com.au/tasmania/maps/youth-unemployment-rate>
- The Tasmanian 100 Percent Literacy Alliance. (2021). A road map to a literate Tasmania. https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.tas-shapewellbeing.files/6716/1604/4056/100percentliteracy_alliance_Roadmap.pdf
- Thomas, D. P., & Brett, P. (2016). Putting on the style: Enhancing citizenship education with a persuasive writing framework. In S. Fan & J. Fielding-Wells (Eds.), *What is next in educational research?* (pp. 285–295). Sense Publishers.
- Urban, R. (October 29, 2021). Writing on the wall as poor literacy standards targeted. *The Australian*. <https://www.theaustralian.com.au/inquirer/writing-on-the-wall-as-poor-literacy-standards-targeted/news-story/03aad8322a835ec8a009088ec26ffd6>
- West, J. (2013). Obstacles to progress. What’s wrong with Tasmania, really? *Griffith Review*, 39, 50–59.

Chapter 4

Expanding and Diversifying Intakes Through the Adoption of Open and Online Learning



David Hicks  and David Kember

Abstract This chapter argues that the degree to which universities have been able to recruit a more diverse student body is dependent on their position on a spectrum of models for admission and course delivery, ranging from traditional to contemporary. The contemporary end of the spectrum is defined by universities adopting three key elements of open learning: open entry; flexibility over where study takes place; and, a degree of flexibility over when study occurs. The impact of the adoption of elements of open learning, and particularly freedom over when and where study takes place through online learning, was demonstrated by comparing demographic characteristics of domestic undergraduate students at four universities, which ranged on the spectrum from traditional to contemporary models of admission and course delivery. The university with the contemporary model had over 70% of students taking subjects online, whereas two of the other universities had no students classified as online and the third had about 10% of online students. The availability of online learning, and to a lesser extent part-time study, enabled the university with a contemporary model to admit significantly greater proportions of: low SES students; those from rural, regional and remote areas and mature students, which brings with it multiple demands from families and employment which conflict with study requirements. The adoption of a contemporary model has taken on greater significance as, in terms of course delivery at least, it is essentially the model which most universities adopted following the onset of Covid-19. The difference, though, is that the transition from traditional to contemporary models was much quicker than that for expanding and diversifying the student body.

D. Hicks (✉)

Faculty of Education, University of Tasmania, Launceston, TAS, Australia

e-mail: david.hicks@utas.edu.au

D. Kember

Gravelly Beach, Australia

4.1 The Spectrum from Traditional to Contemporary Models of Higher Education

This chapter presents evidence for the concept of a spectrum from traditional to contemporary enrolment and course delivery models of higher education in Australia.

The traditional end of the spectrum of approaches to enrolment and course delivery is represented by older, elite, and higher-ranking universities. Within these institutions, teaching is largely conducted on-campus in a face-to-face manner, the bulk of the student body has been admitted to their course of study on the basis of their secondary school performance (in most instances, the ATAR ranking), and is relatively homogenous across a number of demographics such as remoteness of home location, social background and age, as students commonly begin their tertiary studies shortly after finishing secondary school. The traditional end of the spectrum of admission and course delivery is most commonly associated with high-ranking universities, which, because of their status, are able to attract a large well-qualified intake without taking steps to broaden accessibility.

Conversely, universities which have moved towards the contemporary end of the spectrum have adopted, at least to some degree, the principles of open learning (Kember, 1995, Ch. 1; Lewis & Spencer, 1986; Thorpe & Grugeon, 1987), pioneered by the Open University in the UK (Brennan, 2004), which was envisaged as a means of introducing greater equity into higher education. Subsequently, online and distance learning features prominently as a means to provide flexibility over where and when study takes place. Additionally, far less emphasis is placed on secondary school performance as a means to regulate admission. As a consequence, such universities tend to garner enrolment from a far more diverse population and subsequently more diversity is seen across key demographic variables.

Naturally, universities adapt their policies and practices with respect to admission and course delivery depending on the type of students they wish to attract. Subsequently, the position on the spectrum adopted by a university appears largely dependent on the institution's mission, location and context. Offering courses by online learning is a major factor in shifting toward the contemporary end of the spectrum, as it facilitates the enrolment of those unable or unwilling to attend classes on-campus as a result of external commitments or logistics (see Chap. 6 in this volume).

4.2 The Contemporary Model and Open Learning

Movement towards the contemporary end of the spectrum can be considered in terms of the literature on the open learning movement. The comparison is instructive as open learning was envisaged as a path towards achieving a range of equity goals with strong links to the current discourse around educational equity in Australian education.

The formation of the Open University in the UK is central to the birth of the open learning movement. The former prime minister, Sir Harold Wilson (Dorey, 2015), envisaged the Open University as providing an opening into higher education for those who had been unable to gain entry to what was, at the time, an elite system of higher education. In the parlance of the time, it was seen as an opportunity for the ‘working classes’ to gain a foothold in a changing economic landscape through the provision of education, which nowadays might be referred to as boosting the participation and access of students from low socio-economic backgrounds students. In terms of the current discourse on inclusiveness, open learning broadened access to ‘non-traditional’ students, who had previously been under-represented in university enrolments. Non-traditional, in this context, can be taken as including reference to social class origins, first in family, gender minorities, students coming from a racialized or historically marginalized background, as well as from more or less remote Indigenous and/or rural-regional communities.

There is no succinct, universally agreed definition of open learning. The closest approximation to a definition consists of a listing of aspects of openness against which courses or programs can be assessed. The version which seems to be quoted or cited most often is by Lewis and Spencer (1986). They proposed that courses be assessed on a spectrum from closed to open for each of a number of facets including:

- Open entry
- Study anywhere
- Start any time
- Tutors on demand
- Attendance at any time
- Flexible sequence
- Negotiated objectives and content
- Negotiated learning method
- Negotiated assessment.

However, although widely cited, it is often criticized (e.g. Kember & Murphy, 1990; Rumble, 1989) as being somewhat aspirational as opposed to realistic as institutions practicing open learning at the time rarely practiced more than a handful of these elements. Instead the design of the Open University incorporated three key elements of openness, which were radically different to that of conventional universities at the time: open entry; modes of teaching and learning which permitted study off-campus at locations which suited the student; and, asynchronous modes of study which permitted a degree of flexibility over when study took place (although, it should be noted that there were restrictions on timeframes for study in the form of deadlines for assignments and some other activities).

4.3 The Contemporary End of the Spectrum in Australia

Following the success of the Open University in the UK, several countries set up national open universities closely following the UK model. Australia chose not to follow this path. There is the Open Universities Australia, but this is a consortium of providers and not in itself a university. Australia, therefore, has no university specifically founded for, and dedicated to, open learning principles. Rather than founding a national open university, Australia devolved responsibility for open learning to the existing universities. The extent to which universities have catered to those who need open learning is a function of how far they have shifted across the spectrum from the traditional end of enrolment and course delivery to the contemporary one. In essence, the degree to which Australian universities have moved towards the contemporary end of the spectrum can be envisaged in terms of the degree to which they have adopted the three key elements of openness.

1. Online learning and distance education provides flexibility over **where** study takes place, which is needed by those unable to study on-campus. This includes those with conflicting employment commitments, those with family responsibilities and those who reside far from a campus and are unwilling or unable to relocate. There are also students who prefer the flexibility of online learning, even though they live close to a campus.
2. Those with commitments to employment and family also commonly need degrees of flexibility over **when** study takes place. Online learning provides flexibility in this respect in that it is a largely asynchronous form of learning. The other way of introducing flexibility over when study takes place is through offering part-time study.
3. Flexibility over when and where study takes place makes it possible for a wider range of potential students to feel confident that they will be able to manage to study. They might, therefore, be persuaded to apply for admission. Degrees of openness in entry then come into play, which includes admission categories other than secondary school performance.

4.4 Method

To quantitatively illustrate both the presence and the nature of a spectrum from traditional to contemporary models of higher education in Australia the following demographic variables pertaining to the undergraduate student body were extracted from the student records from four universities that reflect a range of approaches to learning and teaching. The values for these were then compared across universities. For the purpose of maintaining confidentiality, they are referred within the present discussion as University T, University F, University M, and University C.

4.4.1 Mode of Study

This variable was based on the proportion of subjects that a given student had enrolled in which were classified as online by participating universities. As it is common for students in Australian universities to enrol in a mix of study modes throughout the course of their degree, students were considered to be studying online if 75% or more of the subjects they had enrolled in were classified as such. This was considered an important variable in relation to the changing nature of higher education in Australia as it represents a shift towards greater accessibility.

4.4.2 Basis of Admission

This was considered an important variable as it has the potential to capture the shift from more regulated student intakes (generally based on performance in pre-tertiary education, e.g., ATAR scores) to an admissions process that more broadly reflects the principles of open education. For the majority of participating universities, there was a considerable range of admission pathways ranging from the more traditionally situated (i.e., performance in pre-tertiary studies) to the more contemporary (e.g., mature age, pre-degree programs, industry experience, etc.). To effectively demonstrate the nature of the spectrum from traditional to contemporary models of higher education, this variable was partitioned into two groups, those who were admitted on the basis of prior performance in pre-tertiary studies (e.g., ATAR) and those who were admitted to their degree through other means.

4.4.3 Remoteness

This was considered an important variable given the geography of Australia. Access to higher education has historically been difficult for students who live outside major population centers and subsequently this unequal access impacts enrolment, expectations and attainment (Parker et al., 2016). To capture this information, post codes relating to the term address of students were extracted from student record systems and transformed into the categories employed by the Accessibility/Remoteness Index of Australia (ARIA+), a measure of remoteness containing five categories which range from “Major City” to “Very Remote”. For the purpose of exploring the spectrum from traditional to contemporary models of higher education, a student was classified as remote if their post code pertained to the final three categories of the ARIA+ (Outer Regional, Remote, and Very Remote).

4.4.4 Socioeconomic Status

Socioeconomic status is a key variable in relation to demonstrating the spectrum from traditional to contemporary models of higher education in Australia as the multiple intersections of disadvantage for those considered to be of low socioeconomic status often present complex barriers to living and working in a university environment (Bowl & Bathmaker, 2016). Subsequently, it is directly linked to the key principles of open education as a foundational rationale. As it is a legislative requirement for Australian Universities to collect data pertaining to the socioeconomic status of their student bodies, information pertaining to this variable was readily accessible and was extracted directly from student records. It is however important to note that these measures are not perfect. Firstly, they are based on the geographical area (measured at SA1) of a given student's home address. Subsequently it is possible, due to the diverse nature of Australian communities, that such a measure does not always accurately represent a given student's socioeconomic status. Secondly, although socio-economic status is traditionally measured using one of the various techniques employed by the Australian Bureau of Statistics (e.g. the Index of Education and Occupation), Australian universities are only required to report socioeconomic status in three broad categories: high, medium, and low.

4.4.5 Study Load

A key aspect of open education is flexibility, subsequently study load was identified as a key variable in relation to the spectrum from traditional to contemporary models of higher education. Within Australian universities, a 'full' study load usually constitutes enrolment in four 25% subjects, however in some instances, students may enrol in a larger number of more lightly weighted units as long as their weightings total 100%. Students in Australia are usually considered "part-time" if their total study load falls below 75%. Data pertaining to this particular variable was readily available within the student record systems of all participating universities and subsequently extracted as a percentage of full-time load.

4.4.6 Age

Increased flexibility in relation to both the nature of tertiary study and the pathways by which a student can gain enrolment have opened the doors for many students to study later in life as it is possible (at least in theory) to balance study with external commitments. Subsequently age was seen as a key variable to include in the comparison.

4.4.7 Attrition

Attrition was perhaps the most complex variable to obtain from student record systems. To measure attrition, student records for the year in which the data were examined was compared to that for the following year. A student was considered to have ‘dropped-out’ and thus contributed to the metric for overall attrition of a given university if a student was not enrolled for study in the following year. Two categories of student were not counted in the attrition statistics; those who had completed their course of study and those who were enrolled in the following year, so who were coded as on-going students.

4.5 Demographic Characteristics of Universities as an Illustration of the Spectrum

The concept of a spectrum from a traditional model of higher education to a contemporary one was illustrated with values for pertinent demographic variables student record systems for undergraduate students to give an idea of the nature and extent of the change in transitioning from traditional to contemporary models. A university with a traditional model of admission and course delivery (University T) was chosen to represent the traditional end of the spectrum, while University C had a contemporary model. In addition to universities T and C, two other universities were included in this exercise. University F teaches all its undergraduate students on-campus. It differs from University T by being outside the Group of Eight (an association of the eight Australian universities with the highest status) and having a more diverse intake. University M is a metropolitan university with a mission to recruit a diverse intake.

Values for the demographic variables are presented in the Table 4.1, with categories defined in such a way that a higher percentage indicates a greater departure from the traditional model.

Overall, the table illustrates very well the concept of the spectrum from traditional to contemporary models. For each variable, University C has the highest percentage, indicating that it has taken the greatest steps towards the contemporary model. It has taken great strides towards widening access and moving towards more flexible modes of study. Conversely, University T has departed little from the traditional model. It has the lowest percentage value for each variable. Universities F and M occupy intermediate positions.

Mode of study is the variable which shows the greatest disparity between the contemporary and traditional models. As the data were taken from the student record databases, mode of study is recorded as a dichotomous variable: either on-campus or online. The databases do not reflect any degree of blended learning in courses. Using this definition of mode of study, Universities T and F demonstrate a traditional approach and teach all undergraduate students on-campus. University C has 71.3%

Table 4.1 Demographic characteristics of students studying at four Australian universities

% of students/university	T (%)	F (%)	M (%)	C (%)
Mode of study (% studying online)	0	0	9.4	71.3
Basis of admission (% admitted on basis other than ATAR results)	12.8	29.9	56.4	71.0
Remoteness (% living in outer regional, remote and very remote areas)	2.5	2.6	6.2	39.7
Socioeconomic Status (% low socioeconomic status)	6.4	14.6	14.5	23.6
Study Load (% studying part time)	19.4	18.5	14.0	52
Age (% age greater than 24)	3.9	18.1	23.6	44.4
% attrition	1.9	10.2	19.3	28.54

of its students not studying on-campus, as it had adopted a contemporary model of course delivery. Note also that these data were gathered prior to the outbreak of Covid-19, so do not reflect any of the shifts to online and blended learning required by lockdowns.

University C has a high proportion (71.0%) of students admitted on a basis other than secondary school results. The proportion of students admitted on a basis other than secondary school results then declines across the spectrum towards universities at the traditional end of the spectrum.

Universities F, M and T are in Major City or Inner Regional areas and so have low proportions of students in the three more remote categories. University C, by contrast, is classified as a regional university and is in an area characterised by a relatively low population density and a dispersed population. An appreciable proportion of students are, therefore, in the three more remote residential categories. The high proportion of University C students not studying face to face indicates that those in more remote locations largely choose to study from home, rather than relocating to the proximity of the campus.

University T admitted the lowest percentage of low SES students. Universities F and M have an approximately equal percentage. University C has the highest proportion. This confirms the validity of the construct of the spectrum model, in terms of showing how the model of higher education needs to be changed to diversify the intakes to admit those in disadvantaged groups. The greater the shift from a traditional model to the more contemporary one, the more diverse the student body will become and the greater the proportion of low SES students.

University C had by far the greatest proportion of part-time students. This is, to a large extent, a consequence of student characteristics and study mode.

44.4% of University C students were greater than 24 years old. This is a reflection of both admitting more mature students and of students taking longer to complete their degrees because of reduced loads. Universities F and M both have significant proportions of mature students. University T, by contrast, has just 3.9% of undergraduate students over 24 years old. It still continues to recruit most of its students directly from secondary school.

Rates of attrition reflect the degree to which universities have adopted to a contemporary model. The more open the door, the more it becomes a revolving door. The more access has been widened and the greater the degree of adaptation to the mode of teaching and learning, the higher the level of attrition.

4.6 Conclusion

In dual-mode universities, student access has been expanded and diversified by adopting, to some extent, three key elements of open learning: open access, interpreted as admission based on criteria other than secondary school performance; freedom over where study takes place, through the availability of open learning; and, a degree of freedom over when study takes place, through the asynchronous nature of online learning and the flexibility of part-time study. The degree to which universities have adopted these three key elements of open learning has been interpreted in terms of a spectrum from traditional to contemporary for models of admission and course delivery. Moving towards the contemporary end of the spectrum results in a student body which is markedly more diverse than that of universities with traditional models. However, it is also a more precariously attached student body.

References

- Bowl, M., & Bathmaker, A. M. (2016). Non-traditional students and diversity in higher education. In J. E. Cote & A. Furlong (Eds.), *Routledge handbook of the sociology of higher education*. Routledge.
- Brennan, J. (2004). *The social role of the contemporary university: Contradictions, boundaries and changes*. Milton Keynes: Open University.
- Dorey, P. (2015). 'Well, Harold Insists on Having It!'—The Political Struggle to Establish The Open University, 1965–67. *Contemporary British History*, 29(2), 241–272.
- Kember, D., & Murphy, D. (1990). A synthesis of open, distance and student-centred learning. *Open Learning*, 5(2), 3–8.
- Kember, D. (1995). *Open learning courses for adults: A model of student progress*. Educational Technology Publications.
- Lewis, R., & Spencer, D. (1986). *What is open learning?* Council for Educational Technology.
- Parker, P., Jerrim, J., Anders, J., & Astell-Burt, T. (2016). Does living closer to a university increase educational attainment? A longitudinal study of aspirations, university entry, and elite university enrolment of Australian Youth. *Journal of Youth & Adolescence*, 45(6), 1156–1175. <https://doi.org/10.1007/s10964-015-0386-x>
- Rumble, G. (1989). Open learning, distance learning and the misuse of language. *Open Learning*, 4(2), 28–36.
- Thorpe, M., & Grugeon, D. (1987). *Open learning for adults*. Longmans.

Chapter 5

The Multiple Associated Study Challenges Faced by Members of a Contemporary Student Body



Allison Trimble

Abstract This study was conducted at a regional Australian university, which has a mission to increase historically low tertiary participation rates in its region. An important strategy in attracting a diverse student body has been the widespread offering of online learning. This study collected interview data from 41 students, who were all enrolled wholly online or in blended learning with a substantial online component. The interview data were used to construct an overview of the study challenges reported by the sample of participants, as well as a set of case studies. These data graphically illustrated the students needing to cope with a wide range of issues connected with their familial and educational backgrounds, as well as their current personal circumstances, while also fulfilling the demands of online study in an off-campus location. These issues are labelled in this chapter *multiple associated challenges acting in concert*.

5.1 Introduction

This chapter presents results from a qualitative study of 41 University of Tasmania (UTAS) students who undertook online or blended learning subjects and degrees during the first semester of 2019. The chapter sets out information reported by the participants in relation to the challenges they experienced during their online study. It also includes four case studies developed from purposively selected participant interviews which provide real world examples of the complex array of interconnected issues which impacted on these students' online learning. The qualitative data presented in this chapter show that the efforts of the university to widen participation had attracted a diverse body of students that is very different to the traditional student body.

The data also call into question the utility of continuing to visualize those recruited through equity incentives solely in terms of the six discrete, defined categories

A. Trimble (✉)
Launceston, Australia

of disadvantage recognized in Australian higher education policy (Department of Education, Skills, and Employment, 2020). While the participants at the focus of this study did meet the criteria for several of the identified equity groups, the challenges they faced in undertaking their online studies were considerably wider than those six defined areas of disadvantage. The students who were the subjects of the case studies faced a number of issues which acted in concert to compound the challenges of their study. We propose the description, *multiple associated challenges* to capture both the overall concept and the wide range of potential issues faced by the diverse student body in contemporary higher education. In most cases such study challenges were interwoven and interconnected, rather than discrete. This phenomenon has been termed by the study researchers as *multiple associated challenges which act in concert*.

5.1.1 Study Context

Tasmania is the Australian state with the lowest tertiary participation rate (see Chap. 3). Increasing participation has, therefore, been a strategic priority for UTAS. The model of higher education adopted by the University is such as to maximize the opportunity for Tasmanians, and others, to enroll and study at the University. UTAS is, therefore, a university very close to the contemporary end of the spectrum of admission and course delivery (see Discussion in Chaps. 3, 4, and 10).

Flexibility in mode of study is important in enabling students to enroll. The table of demographic characteristics of universities set out in Chap. 4 shows that UTAS has a high percentage of online students who do not study on-campus (71.3%), as well as part-time students who are enrolled in less than a 70% subject load (52%). Adopting a contemporary model has meant that the UTAS student body has become very diverse. Chapter 4 also shows that 23.6% of UTAS students are in the low SES category, 44.4% are mature students over 24, and 39.7% live and study in outer regional, remote, or very remote areas.

5.2 Background

Students identified in the literature as “traditional students” were the norm in the era of elite higher education (Trow, 1973, 2007), and are still prevalent in the more selective, prestigious, and highly ranked universities today (see the Melbourne University’s traditional model of admission discussed in Chaps. 4 and 10). These traditional students enter university on the basis of having performed well in the secondary school assessment process. They normally enter university straight after completing secondary school (Ragusa & Crampton, 2018), or soon after, and the university cohort is mostly in the 18–24 year age range (Donaldson et al., 2000). Most are single and without family responsibilities. In the past many would have had their university

study supported by their parents, but these days it is common for them to undertake part-time work to support themselves (James et al., 2010; Kuh et al., 2008). The student population at a university like UTAS, which has adopted a contemporary model of admission, is characterized very differently.

Existing research has identified a range of personal and situational factors which may impact individually and severally on the study experiences of contemporary online students during their tertiary education. A number of these study challenges are addressed in the following six identified equity groups recognized in Commonwealth government policy (Department of Education, Skills and Employment, 2020).

- Those from a non-English speaking background.
- Students with disability.
- Women in non-traditional areas.
- Those who identify as Aboriginal and Torres Strait Islanders.
- Students from low-socioeconomic status (SES) locations, based on the statistical areas of permanent home residence.
- Those from regional and remote locations, based on statistical areas of permanent home residence.

Research in relation to these equity groups is referred to throughout this book, and in particular, in the literature review set out in Chap. 2.

Chapter 10 presents and discusses Structural Equation Modelling (SEM) of retention and success for universities at the traditional and contemporary ends of the spectrum for admission and course delivery. Variables in the SEM models were restricted to those data contained in, or readily derived from, the student record databases of the university. The models showed that student retention and success are influenced by multivariate phenomena which included the following:

- mode of study,
- admission basis,
- remoteness,
- socio-economic status (SES),
- proportion of full-time load,
- age, and
- academic progress.

The factors of SES and remoteness overlap with the recognized equity groups. The other variables, which fall beyond the scope of the identified equity groups, have however been shown in the model to operate as study challenges for online students. Online students who experience such issues of disadvantage have been termed by Crawford and Emery (2021, p. 20) as “equity like” groups. Research in relation to the study challenges facing online students is discussed throughout this book, most particularly in Chaps. 2, 4, 6 and 10.

5.3 Method

5.3.1 Larger Research Project

This study was part of a broader mixed-methods project which examined support for online students (see Chap. 1 for details). For the purposes of that larger investigation, interview data were collected from 41 UTAS students who were enrolled in seven different online and blended-learning subjects and courses. A theme which emerged strongly from analysis of the coded data included the multiple associated challenges faced by online students in relation to their university study.

For the purposes of the larger project it was determined that seven case studies would be written up to illustrate the challenges faced by online students from each of the focus subjects/courses. The coded interview transcripts were re-read several times by all members of the research team, and a consensus was reached about which participants would be the focus for the case studies, based on the extent to which they illustrated different study challenges. Four of the case studies have been included in this chapter.

5.3.2 Study Research Question

This study aimed to investigate the challenges perceived by participants enrolled at UTAS in studying in an online or blended mode. In this chapter the umbrella term ‘online’ will be used to encompass learning that is wholly online as well as blended learning, in which there is a mix of both face-to-face activities delivered on campus and synchronous/asynchronous online activities. The following research question was the focus of this study:

What challenges did online students experience in accessing and undertaking university study?

5.3.3 Study Research Methodology

To address the research question this chapter presents an overview of the challenges experienced in studying by the sample of students interviewed for this research. This provides a contextual background for four individual case studies that illustrate issues faced by the participants arising from their personal circumstances as well as the online nature of their studies. The case study narratives and quotations were drawn directly from the interview transcripts, with allowances for anonymization of the participants.

This study utilized a qualitative, case study approach (Stake, 2005). Case Studies 1 and 3 involved participants enrolled in online subjects for a Bachelor of Education

course in the School of Education, while Case Study 4 focused on a participant undertaking an online Master of Teaching course offered by the same School. The participant who supplied the data for Case Study 2 was enrolled in a blended learning subject for a Bachelor level course within the School of Health Sciences.

The sample of students who participated in this study were purposively self-selected volunteers who, during the previous semester had studied online or blended-learning subjects or courses led by members of the research team. The study sample was non-random and not probability-based, and does not support statistical generalization. Within the qualitative tradition however, the consideration of specific cases may contribute to an understanding of matters affecting a wider population (Bennett, 2022) and the make-up of the sample may offer interesting insights into the challenges faced by students studying online.

5.4 Overview of Challenges Reported by Participants

Analysis of the interview transcripts revealed a wide range of challenges experienced by the participants which impacted on their study, as set out in Table 5.1.

As mentioned, a total of 41 online and blended learning students were interviewed for this study (85% female and 15% male) The majority (83%) were mature-aged students who were older than 24 when they commenced their current degree. Those same students qualified for enrolment on a basis other than their secondary school results. Two of the 41 participants reported low achievement in their secondary schooling. A little over half the sample were studying part-time (54%), with the remainder taking a full-time load of subjects. Most of the participants were studying an undergraduate course (80%) with the remaining 20% enrolled in a postgraduate degree. Forty-four percent had completed a previous Bachelor level degree, while 22% had previously started a degree course but withdrawn before completion.

Twenty-nine (70%) of the participants were resident in Tasmania (the Australian state in which the university was located) at the time of data collection. Of the Tasmanian resident students, 66% were living in a regional/rural/remote location and 34% in Hobart, the state's capital, and major metropolitan city. No specific location data was available for the 12 participants who resided interstate or overseas. Eleven (27%) students reported that they lived close to where their course was offered in Tasmania, so the issue of relocating did not arise for them. All the 30 (73%) remaining participants indicated that they did not wish to relocate for study.

Twenty-eight of the participants (73%) were undertaking part-time or full-time paid work as well as studying. Of the students who were not in paid employment, three indicated that they were in receipt of Commonwealth Government financial aid, two had retired from paid work, three were precluded from working by visa conditions, and five participants reported being financially supported by their partners. Sixty-six percent of the interviewed students had caring responsibilities for a partner and/or children or other family members. In relation to the reasons for their current studies,

Table 5.1 Overview of participant study challenges

	Alternative entry	Low school achievement	Part time study	OL or blended	No previous degree	Previous degree attempt	Regional/rural/remote location ^a	No wish to move ^b	Mature aged	Gender	In paid work	Family/carer responsibilities
Andrea	Y	N	Y	Y	Y	Y	i	Y	Y	F	Y	Y
Breanna	Y	Y	Y	Y	Y	N	Y	LIL	Y	F	Y	Y
Caitlyn	Y	N	Y	Y	N	N	i	Y	Y	F	Y	Y
David	Y	N	Y	Y	N	N	i	Y	Y	M	N	Y
Erica	Y	N	Y	Y	N	N	i	Y	Y	F	N	N
Fiona	Y	N	Y	Y	N	Y	Y	Y	Y	F	Y	N
Karen	N	N	N	Y	N	N	i	Y	N	F	Y	N
Lauren	N	N	N	Y	N	N	N	LIL	N	F	N	N
Maria	N	N	N	Y	N	N	N	LIL	N	F	N	N
Sarah	Y	-	Y	Y	Y	N	N	LIL	Y	F	N	Y
Gina	N	N	N	Y	Y	N	Y	LIL	N	F	Y	Y
Hannah	Y	-	N	Y	Y	Y	N	Y	Y	F	Y	N
Irina	Y	N	Y	Y	N	N	Y	LIL	N	F	N	Y
Jen	Y	-	Y	Y	Y	N	Y	LIL	Y	F	Y	Y
Harry	Y	N	Y	Y	N	Y	os	Y	Y	M	Y	Y
India	Y	N	N	Y	N	N	N	Y	Y	F	N	Y
Jasmin	Y	N	N	Y	N	N	i	Y	Y	F	Y	Y
Kayla	Y	N	Y	Y	N	N	N	Y	Y	F	N	Y
Lisa	Y	N	N	Y	N	N	Y	Y	Y	F	Y	N
Marissa	Y	N	Y	Y	N	N	N	Y	Y	F	Y	Y

(continued)

Table 5.1 (continued)

Nadia	Y	N	Y	Y	N	N	N	N	N	N	N	Y	Y	F	Y	Y
Oscar	Y	N	Y	Y	N	N	N	N	N	N	N	Y	Y	M	N	N
Patricia	Y	N	N	Y	N	N	N	N	N	N	N	Y	Y	F	Y	Y
Yolande	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	F	N	Y
Alexandra	Y	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	F	Y	Y
Brittany	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	F	Y	Y
Crystal	Y	N	Y	Y	N	N	N	N	N	N	N	Y	Y	F	Y	Y
Diane	N	N	Y	Y	N	Y	Y	Y	Y	N	N	Y	Y	F	Y	N
Ebony	Y	N	N	Y	N	Y	Y	Y	Y	Y	N	Y	Y	F	Y	Y
Francesca	Y	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	F	Y	Y
Gia	Y	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	F	N	Y
Pamela	Y	N	Y	Y	N	N	N	N	N	N	N	Y	Y	F	Y	Y
Regan	Y	-	N	Y	N	Y	Y	Y	Y	N	N	Y	Y	F	N	Y
Sandra	Y	-	Y	Y	N	Y	Y	Y	Y	N	N	Y	Y	F	Y	N
Tiffany	Y	-	Y	Y	N	Y	Y	Y	Y	N	N	Y	Y	F	Y	Y
Vincent	N	N	N	Y	N	Y	Y	Y	Y	N	N	Y	Y	M	Y	N
Wendy	N	N	N	Y	N	Y	Y	Y	Y	N	N	LIL	N	F	Y	N
Teresa	Y	-	Y	Y	N	Y	Y	Y	Y	N	N	Y	Y	F	Y	Y
William	N	N	N	Y	N	Y	Y	Y	Y	N	N	LIL	N	M	Y	N
Olivia	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	LIL	Y	F	N	Y

(continued)

Table 5.1 (continued)

Andre	Y	N	Issues with IT	N	First in family	Y	Parent with secondary education only	N	From area with low tertiary participation	N	NESB	Y	Indigenous	L/L	Physical/mental health issues	Y	Disabilities	M	Experience O/L isolation	Y	N	Low income
Andrea	Q	N	N	N	N	N	N	-	-	-	-	-	-	-	-	-	-	N	-	-	-	-
Breanna	C	Y	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	Y	Y	-	-	Y	-	-	-	-
Caitlyn	C	N	N	Y	Y	Y	Y	-	-	-	-	-	-	Y	Y	-	-	N	-	-	-	-
David	I	N	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N	-	-	-	-
Erica	I	N	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N	-	-	-	-
Fiona	Q	N	N	Y	Y	Y	Y	-	-	-	-	-	-	Y	Y	-	Y	Y	-	-	-	-
Karen	C	N	N	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	N	-	-	-	-
Lauren	Q	Y	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	N	-	-	-	-
Maria	Q	N	N	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	N	-	-	-	-
Sarah	C	Y	Y	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	N	-	-	-	-
Gina	C	Y	Y	N	N	N	N	Y	Y	-	-	-	-	-	-	-	-	N	-	-	-	-
Hannah	Q	N	N	-	-	-	-	-	-	-	-	-	-	Y	Y	-	Y	N	-	-	-	-
Irina	C	Y	Y	-	-	-	-	-	-	-	-	-	Y	-	-	-	-	N	-	Y	-	-
Jen	Q	N	N	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	Y	-	-	-	-
Harry	Q	N	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-	-	-	-
India	C	N	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N	-	-	-	-
Jasmin	C	N	N	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-	N	-	-	-	-
Kayla	C	N	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-	-	-	-
Lisa	Q	N	N	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	Y	-	-	-	-
Marissa	C	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-	-	-	-

(continued)

Table 5.1 (continued)

Nadia	C	Y	Y	Y	-	-	-	-	-	-	N	-
Oscar	C	Y	Y	Y	Y	-	-	-	-	-	Y	Y
Patricia	Q	N	-	-	-	-	-	-	-	-	Y	-
Yolande	Q	N	Y	Y	Y	-	-	-	-	-	N	-
Alexandra	C	N	Y	Y	-	-	-	-	-	-	Y	-
Brittany	C	N	N	N	-	-	-	-	-	-	N	-
Crystal	C	N	-	-	-	Y	-	-	-	-	Y	-
Diane	C	N	-	-	-	-	-	-	-	-	Y	-
Ebony	C	N	N	Y	-	-	-	-	-	-	N	-
Francesca	C	N	Y	Y	Y	-	-	-	-	-	N	-
Gia	Q	N	N	-	-	-	-	-	-	-	N	-
Pamela	C	N	-	-	-	-	-	-	-	-	N	-
Regan	C	N	-	-	-	-	-	-	-	-	Y	-
Sandra	C	N	N	N	-	-	-	-	-	-	N	-
Tiffany	Q	Y	-	-	-	-	-	-	-	-	N	-
Vincent	C	N	Y	Y	Y	-	-	-	-	-	N	-
Wendy	Q	N	Y	Y	-	-	-	-	-	-	N	-
Teresa	C	N	-	-	-	Y	-	-	-	-	N	-
William	Q	Y	Y	Y	-	-	-	-	-	-	N	-
Olivia	Q	N	Y	Y	Y	-	-	-	Y	-	Y	Y
Andre	I	N	-	-	-	Y	-	-	-	-	N	-

^aIn the *Regional/Rural/Remote location* category, *i* means residence interstate and *os* means residence overseas. ^bIn the *No wish to move* category, *L/L* means the participant lived in close proximity to the university but choose to study online. ^cIn the *Reason for enrolment category*, *Q* means wanting to gain a qualification for future employment, *C* means studying to support a change of career, and *I* means study for interest only. Throughout the Table the symbol—means that no data was available on that issue

6% enrolled purely for personal interest, 36% to gain qualifications for a present or planned career, and 58% to prepare them for a career change.

There was considerably less data available regarding other study challenges listed in Table 5.1. Fourteen out of 20 participants (70%) reported that they were the first person in their family to attend university. Numbers and percentages for students whose parents did not have tertiary education were broadly similar, with 15 out of 19 participants (79%) indicating that this was the case. Eight participants stated that they grew up in a location with traditionally low tertiary participants. Eight students came from a non-English-speaking background, and two participants identified as indigenous. Five of the interviewed students indicated that they experienced physical and/or mental issues which impacted on their studies, and two students identified as living with a disability.

As noted previously, all the students interviewed were studying online at the time of data collection, either wholly or in part. Two additional challenges emerged from the data analysis which were particularly associated with this study mode. Approximately one quarter of the participants described challenges with IT, and particularly with using the university's Learning Management System, which impacted on their learning. Thirty-seven percent of the interviewed students reported feeling isolated during their online studies.

Table 5.1 does not include any data in relation to low SES based on the students' residential postcodes as that information was not collected for this study.

5.5 Introduction to the Case Studies

The case studies show that the students face what we have termed as multiple associated challenges. These include many factors which are not routinely recorded in student record databases, but which can have a real impact on the student's experience of study. The case studies illustrate very well, the array of multiple associated challenges acting in concert (Table 5.2).

5.6 Case Study 1: Yolande

Yolande is in her early thirties. She is a mature-aged student studying Education at UTAS. She lives in Tasmania with her husband—a high school teacher—and two children, aged seven and three. Since having the children she has been a “stay-at-home” parent, looking after the domestic side of her family's life. In 2019 Yolande returned to higher education, this time as an online student. Her aim is to get the qualifications to work in teaching once her children are both at school.

As she was returning to study after a gap of ten years and with all the commitments of a busy family, Yolande opted to begin her Education study gradually, as an online, part-time student. She enrolled in two first year units and had a very mixed experience

Table 5.2 Demographic information about the case study subjects

Participant Pseudonym	Gender	Age range	Enrolment mode	Study load	Work status	Family situation	Residential location	Previous university education	Degree course
Case study 1: Yolande	Female	30–39	Online	Part time	Not in paid employment	Partner + dependent children	Regional city	Unsuccessful degree attempt	Education
Case study 2: Sarah	Female	40–49	Blended	Part time	Not in paid employment	Partner	Major metropolitan city	No	Health Science
Case study 3: Regan	Female	40–49	Online	Full time	Not in paid employment	Partner + independent son	Rural	No	Education
Case study 4: Jasmin	Female	40–49	Online	Full time	Works full time	Partner + dependent children	Interstate	Previous degree	Education

which she described as “interesting”. One unit was enjoyable, and very positive. The instructors had a high level of presence during teaching, and Yolande enjoyed the interactions with her fellow students through the unit discussion boards. She became familiar and relaxed with the instructors’ and students’ online presence. Having established a feeling of connection with the instructors, Yolande felt even more motivated to do well in their unit. In relation to the unit she enjoyed, Yolande noted—

What was good was definitely the visual of their videos they did each week. The lecturer and the tutor did an actual video of themselves, so that made it feel like you were actually on the campus with them, that you’re sitting there in a tutorial with them. So having a face to a name, and then working off each other and being really relaxed about it all, it just gives you that relaxed feeling, and I truly believe if you are relaxed and excited about something, you’ll try harder, as opposed to if you’re scared and nervous and anxious. ... It [the relaxed environment] makes me want to try harder because I want to do better and be like, I really want to do well here and impress my tutors and get good grades. It was good.

Her experiences in the other unit were extremely negative. She felt isolated, with little connection with either the instructors or the other online students.

There was just no connection with the people in the other subject. I didn’t know any of the other students online. Nobody used the discussion board at all. It was like one comment maybe once a week from someone, saying one random question that wasn’t really relevant to anyone else. I didn’t ever see people pop up, whereas in the first unit, over the course of the semester, you’re like, oh yeah, that person, that person, you know their face by profile picture, and you actually got conversations going with them, and the lecturers and all that were really involved in the discussion boards, and that was really helpful, but that did not happen with the other subject. You felt very alone, very alone.

She was given little feedback about her work or her learning progress by the instructors. The assessments for the unit, in which the instructors only marked a random selection of the total assignment questions, made her feel that her learning efforts were not valued. If this unit had been her only experience of returning to university, she felt that she “would be in a much different headspace, going into semester 2, if [she had] even made it through semester 1.”

Some ten years previously, and straight from Year 12, Yolande had enrolled in a full-time, on-campus degree in Nursing. She withdrew before completing her degree because she had decided not to pursue a nursing career. Coming back to tertiary study in 2019, Yolande felt more confident about her choices. Her life experience gained while away from study proved invaluable. As she described—

When I did nursing, I was scared, young, anxious. Walking into that campus was like, oh my goodness, where do I go? I just need to go to the toilet; where’s the toilet? What time’s my class; where’s the class? I don’t know anyone. It’s scary, it’s very scary, and so you’re dealing with all of that on top of the fact that you’re actually now supposed to be understanding the literature that you’re reading, which is so far from almost what we get taught in college ...

When I came into the campus to get my books for first semester, I had all those feelings again, and I had my three-year-old with me in the pram, and I’m walking around thinking everyone thinks I’m this teenage mum. No one else has got a kid here with them, and it was

funny though because it felt so good to walk in there and be like, I have no anxieties right now. I've lived the last 10 years of my life, and I don't care if I don't know anyone, that doesn't bother me.

Yolande found her online learning in Education markedly different to her earlier Nursing study. An important factor that now impacts on her learning is the unplanned demands involved in caring for her family. To cope with unexpected events, Yolande's strategy is to keep a close track of her online learning tasks, use checklists, and try to keep ahead. She noted—

I really just want to do well with this, and having the two kids, I have to push myself or I'm going to fall behind. ... If you are online, especially with technology nowadays, if you get lost in the rabbit warren of all the things on there that you've got to be checking, you've got to be checking the discussion board, checking your emails, checking this, checking that, you can get really lost in all that and spend a lot of hours just going, did I do that already? So, you've got to have a bit of a management plan of ticking off.

Although Yolande is now passionate about her study, and particularly values learning how to learn, when she was growing up her family did not prioritize further education. She was the first in her family to continue to university. Her parents were farmers, her brothers left school after Year 12, and her family believed that an activity like study, not involving hard physical effort, did not really count as “work”.

They don't understand the load, the actual what it takes to study and do the bookwork and everything. ... It's like you're not actually out there physically putting in the fence or anything, you're just sitting there reading, how hard's that, right?

She feels that her parents and siblings still do not appreciate the challenges she faces in going back to university. She does, however, consider herself fortunate in being well-supported by her husband who has successfully obtained a tertiary degree.

An aspect of her online study that Yolande found particularly engaging was the use of discussion boards by instructors and students. She values the opportunity they offer for “conversations” and exchanging ideas. She found that many of the questions she had about her learning were asked on the discussion boards by other students, and she often posted queries to clarify information.

I would usually find the answers to my questions from other people already on there, so I was really good with following everybody else's posts. I would put something on there every now and again if I had a question, or just to clarify things or ... Everyone bounced off each other really well, and the people would even say, “I had that question too. Thanks for asking that”. So, it wasn't just you got your answer and you went away. You actually said, “Well, I was thinking that too. Thanks for putting that up”. It was a real friendship group with everybody else.

She did become frustrated with peers who continued to ask questions that had already been answered. Overall, Yolande felt that the students who regularly used the discussion board formed a supportive group, even though they did not have on-campus contact.

Several teaching elements contributed to Yolande's engagement with her instructors. These included online lectures where students could see the instructor

presenting, rather than just the content slides, webinars with questions and answers in real time, emails answered promptly, and personalized communications. When asked about her personal engagement with the unit instructors, Yolande observed,

They did two—webinars, are they called—where you actually get to do the Facetime with them and a couple of the other group, so you got to actually say hello and have a chat, and emails, they were always good with emails. If you emailed them about things, it would be like two, three days tops before you heard back from either the lecturer or tutor. ... We're all humans. There's no need to be like, oh yeah, you're just a number, or you're just a student. You're a person.

Yolande plans to continue with her Education studies, increasing her academic load as her children become more independent. “I love that there is online, especially for mums or people that have disabilities or anything that can't go into campus. ... I just love all the other little things that I'm learning along the way, and I'm just keeping my brain active.” Yolande is now trying to persuade her sister-in-law, who is feeling unfulfilled in her current job, to begin university study as well.

5.7 Case Study 2: Sarah

Sarah is a mature-aged student in the 40s, studying part-time at UTAS. She grew up in Europe but has lived in Australia for many years. She has worked at a variety of jobs in different fields, and worked in Hobart, Tasmania for some 14 years before moving to Melbourne. To pursue her university study, Sarah gave up her job in Melbourne and moved back to Tasmania with her partner. She is not working while studying and is being supported financially by her partner. As she told us—

The whole thing of me quitting pretty much full-time work, a very secure job with very good pay, it wasn't just my decision. It didn't happen until we were able to afford it. ... I can only focus so much on my study because I have so much outside support because my partner takes care of the bills.

Sarah only came to tertiary study in the last few years. As she noted, she hadn't “done mathematics or chemistry for, my goodness, for 30 years, over 25 years. And so much has changed since then!” While living in Melbourne she studied for a year at a small, privately-run college, which she discontinued in favor of enrolling at UTAS. She found the move to a much larger institution somewhat daunting but has settled in comfortably to her study at UTAS. She explained—

I expected quite a change going from a small uni to a really large environment where it's very anonymous. I felt, that oh, the lectures are full. You can never get hold of your educators. So, people do talk tall tales a lot, and they can be pretty scary, but I've succeeded in my first year.

Last semester Sarah enrolled in a unit which was presented in a non-traditional way. Rather than the usual structure of lectures, tutorials and practical sessions, this unit was “flipped”. Each week's information content was set out in MYLO (the

UTAS digital learning platform) for students to study online. They then attended an “active learning workshop” conducted by the unit instructor, where the content was discussed. There were also tutorials and practical learning sessions.

This unit was heavy with content to be understood by students. However, the instructor utilized several different techniques to engage students and support different learning styles. As Sarah observed, “There’s so much variety. You don’t get bored just sitting there reading one type of material, or just having one interface style.” In the week’s pre-learning content, the instructors provided online lectures of varying length, textbook references, academic articles, TED talks, and YouTube videos. In the active learning workshops students used an app on their personal devices (phones, tablets etc.) to answer questions about the week’s learning, which were then discussed during the session. Group work was undertaken using a Cloud-based program. Online discussion boards were available throughout the semester to all students. While Sarah found the different ways of presenting content to be engaging and enjoyable, she found that, at times, challenges with technology diminished the time left for learning. When asked about one of the programs used in the unit, she commented, “The way that the app’s written and presented is sometimes really, really difficult to get your head around. You end up wasting all this time trying to understand what they want from you.”

In relation to the discussion boards used for teaching and learning in the unit, Sarah was, for the most part, very positive. She found this opportunity to engage with the instructors and other students to be valuable. It was a means for her to get answers to questions, and for her to support other students in the unit. She did, however, find it frustrating when she was one of the few who posted on the discussion boards.

It depends how engaged the educators are. It also depends on your university mates, say people that are in that unit with you. So yes, if people are engaged and willing to help, and ask the question that you might have because they might think that they know the answer, or they might be able to put you in the direction. That’s what it’s there for exactly. ... It can be very useful, but otherwise, yeah, when you’re putting the effort in and no one else is, it can be truly frustrating.

One of the other units Sarah studied last semester was initially presented in an on-campus mode but was changed to online during the semester. She was personally pleased with the switch to online learning because of the flexibility it gave her to study when, and how, she chose. Other students, however, were unhappy with the change.

It moved from face on into being completely online. And I was actually quite grateful for that. A lot of people complained, and they really went like, “What the hell? I did undertake this subject because I wanted it to be on-campus.” I’m really happy because it gave me so much flexibility. ... That little bit of a leeway, having a choice of when I want to listen to this lecture, rather than being forced into going there to do it. And having this flexibility for me was fantastic. And then you can re-listen to it any time you want, and that’s what I did over and over again when I was preparing for my exams. I would take it with me on my treadmill. I would listen to this when I had time.

In light of the negative reactions from fellow students about having to study online, Sarah suggested it might be worthwhile for UTAS to offer students more information

about online learning during orientation sessions: explanations about how it works, and the important things students should know about this mode of study. In Sarah's view—

It's [online learning] got a lot of bad rap. So, I think to engage people more with that I think you need some sort of information session, exposure, would be so helpful. ... Something about how to study online, and promote it, and explain it so people are not scared. People are scared when they don't understand and when they don't know.

5.8 Case Study 3: Regan

Regan is a mature-aged student who lives in rural Tasmania, about an hour south of Hobart. She is studying online due to responsibilities at home and around her property, and the distances involved in travelling to campus. She has a partner, who often works away, as well as an independent adult son.

Before commencing study at UTAS, Regan worked in a variety of different fields, including health and fitness and IT. She is now looking for a change in career direction and sees Education as offering many opportunities. She explained that she—

Started doing literacy tutoring. And I enjoyed that more than I expected to and I guess I was looking for something where I felt I would have a range of career options over the next decade or two, and ... so Education seemed to fit the bill. I wasn't 100% sure at that time that education would be my thing ... but I'm certainly really enjoying [it].

This is Regan's first undergraduate degree. Prior to starting first semester Regan accessed the online UniStart modules to become familiar with things like the UTAS learning platform. She described—

When I applied and they gave the information about UniStart and things being able for free online. I went through not the entire course, I couldn't do the dates, I was still working at the time when the dates of that were on campus, but I did go through some of the online modules for that, to help get set up.

This is her third semester. She is taking a full-time study load of 4 units.

Although Regan has chosen to enroll as a fully online student because of the flexibility it offers, she would have preferred to study on campus to get the 'university experience'. Regan noted that she—

Had considered it [on-campus mode] when starting, as to whether that was an option, that I could, you know, to move or travel to Launceston, but it wasn't feasible at this point in my life. ... I was actually going to go to the campus and just hook into a lecture in some other unit so that I get the experience of actually going to a university lecture theatre and experiencing it in person.

Some of the major challenges Regan faces in her studies involve procrastination and getting distracted by side issues, which she describes as going down unrelated "rabbit holes". She reported that "I do get quite overwhelmed with trying to fit everything in and it's not so much the Uni level as my own personal responses I guess to stress

or to tasks that are coming.” She finds it difficult to both start on study tasks like assignments, and then to complete them, which causes her considerable stress.

Regan enjoyed the teaching unit she took this semester. She felt that the content was well organized, and the lecturer gave valuable feedback and was very accessible and responsive to students. Regan made particular comment about the instructor’s encouragement of online students collaborating and interacting with one another. This motivated Regan to form an on-campus study group with other online students.

The other key thing in that unit that hadn’t been brought up in other units was that Lecturer encouraged people to work together for assignments, not that it was a shared assignment, but to meet. ... So, when Lecturer invited people to do that, you know, suggested it, you know, I put an enquiry out there “is anyone interested in meeting at the Sandy Bay Campus to discuss?” And we had a group of four or five of us. ... It was just nice to meet some people on-campus.

This was very different to other units she has studied—

It probably hadn’t been spelled out, but some of that just certainly made it seem – you know, there’d been things like “This 100% has to be your own work, ensure you’re not working with someone else on it.” So, it didn’t lead to any discussion, even though you know that students on campus no doubt were catching up.

Interaction with people is extremely important to Regan. She finds her online study to be isolating, “I’ve found it very isolating being rural and studying.” Although she has some engagement with other students when studying online, Regan considers that the interactions are not of the same quality as those for on-campus students: few students participate in the online webinars, and online tutorials are simply discussion board postings with little actual discussion.

To increase the feeling of belonging to the whole learning community of her online units, Regan has suggested that on-campus learning sessions be recorded and made available to the online students.

If it’s ever possible to see or hear the conversations that happen, you know, in a tutorial or lecture, I think that would lend a bit of feeling like part of the [course] or part of the unit, to someone to hear those. Even if it’s not every one, but some maybe.

5.9 Case Study 4: Jasmin

Jasmin is a UTAS online student in her 40s, enrolled in the third semester of a Master of Teaching (MTeach) degree. She was born overseas, but now lives in Melbourne with her husband and two school-aged children. Her spoken and written English skills are excellent. She already had a Bachelor’s and Master’s degree in a different professional field. Jasmin is currently studying a full-time load of four units, working full-time (for financial reasons), and caring for her family.

In recent years Jasmin decided to change professions, to work as a primary school teacher’s aide. As she described it, “I think my heart has always been in teaching and when I had my children, I did a lot of volunteering and I just found out that it made

me really happy when I went into school.” Even so, it took her some time to decide to return to university and commit to a teaching qualification. Jasmin explained, “I just really always felt that I wasn’t ready for it or whether this was what I was going to commit to, and then apparently, I decided last year that this is going to be it.” She chose to study online because it provided her with the flexibility she needs. As she stated, “Online works better for me because I can still be a mum and I can do my work and I can still go to work ... It’s tiring, but it is good.”

Jasmin considered several different institutions when thinking about going back to university. She chose UTAS because of the support given by admissions staff, the ease of enrolling, and the fact that she was able to discuss her personal circumstances directly with a person authorized to make a decision.

I did go through a few of the universities that was available that did the online option, but I just felt there was a fit with UTAS and the way the communication and the support that I got even before I started. ... They were very prompt in getting back. There were not a lot of hoops that I had to go through. The paperwork was fairly straightforward and relevant compared to some. ... With UTAS I was actually speaking to a person who made a judgement and who was willing to listen, so I just found it very approachable.

The MTeach degree was attractive to Jasmin for several reasons. Firstly, it would take two years instead of the four-year Bachelor of Education, so she could graduate sooner. Secondly, it was offered in an online mode, giving her flexibility in her study arrangements. Her previous degrees were all on-campus, but she felt that online study better suited her current stage of life. In her interview Jasmin explained that “I had the time and the energy for on-campus then. ... Online study just works for me [now] because I can do it, sort of ... work quicker or slower, whichever. Take it ... at a reasonable pace that I can manage.”

Like many students new to online learning at UTAS, Jasmin initially had a lot of difficulties with using MYLO, the online learning platform.

When I started it was nerve-wracking. Like I was in tears, and I was like, ‘Oh my God. I can’t do this, I need to pause, I don’t want to continue.’ ... The lecturer that I did have ... I think I sent her, like, 100 emails or something saying that ‘I don’t think I can do this’, and she actually called me, and she said, ‘No, you can.’

It’s just because I couldn’t understand MyLO, I didn’t find MyLO very user friendly to start off with. There were a million tabs, but then I think it was just like with anything else, just getting used to studying online, or just getting used to that sort of a format because now I’m thinking, you know where that is, or I know where this is. Sometimes it is still a bit tricky because when you’re doing three or four units at the same time, and an answer post will come from somewhere and it can be missed and things like that. I think initially I found it really hard, but now I’m into my third semester and I’m not finding it as challenging.

She reported that issues still arise from time to time and recommended use of the IT helpline.

The teaching unit Jasmin studied this semester used a combination of recorded lectures, short overview videos, webinars (video meetings), and discussion boards to engage online students. Jasmin stated that the instructor took care to present the learning content for the unit at just the right level, so everyone could understand the subject, as well as how to teach it. She found the short overview videos very

valuable, because they reminded her of basic content information, and she appreciated the humour that the instructor used to lighten the presentations. Although she was unable to attend the webinars because of her work and family responsibilities, they were recorded, and Jasmin accessed them when it was convenient for her.

Having enrolled as an online student, Jasmin felt a commitment to post regularly to the unit discussion board. She would provide feedback on other students' posts and would offer her own perspectives on the topics addressed. Jasmin commented—

It's a commitment, but I think that it is important to have that discussion board because sometimes when you have absolutely no idea what that particular topic was about, you can go and you can see what someone else has written and be like, 'Oh yeah. That makes sense.' And then you go back and have a bit of a think and then come back with your own.

If she fell behind in her study, she contacted the Lecturer to explain, and would go back to the postings from previous weeks and catch up.

Jasmin reported that she developed some familiarity with the other online students who posted to the discussion board, having learnt something about them from the introduction activity. This connection could be followed up on a more personal basis. In Jasmin's words—

I didn't know them, I knew the names, we know their background as in what they're doing, whether they're mums or dads or where they've come from because we have that introduction thing that we start off in week 1 where we introduce ourselves, and then you see these familiar names through certain units that we share. So, maybe not like a catch up thing because most of them are in different parts and things like that. But we do say, 'Hey nice to see you here too,' that kind of thing, so in that way I might have got to know them, not on a personal level like that. But yes. But we do before an assignment, we might send a private message or an email to each other saying, 'How's it going?' and, 'Did you get this right?' that kind of thing, but that's about it really.

Although she admits that the time demands of work, family, and study are heavy, Jasmin recognizes the benefits of having a support network, based on her husband and her teacher colleagues, she can rely on.

At work I do have support from colleagues, they're very helpful; all of them are teachers, they've all been there, they've all had to do the hard work on learning. So, yes, there's a fair bit of colleagues that I do have that are very supportive. My husband is, he makes sure that other things are done so that I'm not a cranky pants at home all the time. ... I must say I do have support.

5.10 Summary of Case Studies

The case studies presented in this section illustrate the different experiences of four mature-aged female students who undertook online study at UTAS. Yolande came from a rural family background in which tertiary education was not valued. She was the first member of her family to attend university. Ten years previously she had enrolled in a nursing degree but withdrew before completion. She studied part-time while caring for her partner and young children and planned to work as a teacher when

the children are older. She coped with the unexpected demands that family life made on her limited study time through the use of study management tools like checklists. She experienced online isolation in a subject where there was little teacher and peer support. However, in other subjects she found positive support from teachers and the learning community. Sarah enrolled in her degree having rich life experience. While English was not her first language she had lived in Australia for a considerable time and was a fluent English speaker. Previously she had worked in a wide variety of jobs and taken several different vocational courses. This was her first undergraduate degree. Sarah gave up paid work and moved interstate with her partner to study at UTAS in a blended mode. While Sarah was studying her partner undertook to support them both financially. Regan lived in a rural area with her partner, looking after their home and property. Not having previously studied at university, she undertook the Unistart orientation program before commencing full-time study. Regan experienced study challenges around distraction and procrastination. She would have preferred to study on-campus but was precluded by her circumstances. To address her feeling of isolation online she initiated face-to-face meetings with her fellow learners. Unlike the other case study students, Jasmin lived interstate. She had a previous undergraduate and postgraduate degree (achieved on-campus) and enrolled in the postgraduate MTeach course to support a professional career change. She was studying a full-time load, working full-time, and caring for a partner and children. Jasmin's main study challenge involved use of the university Learning Management System. She accessed a wide variety of support resources, including advice from her teacher, to improve her understanding and skills.

5.11 Multiple Associated Challenges Acting in Concert

The literature suggests that online students may face a wide array of challenges in relation to their studies. These challenges may be associated with the students' family or educational backgrounds, their current personal circumstances, or the nature of online study itself. Such challenges may arise from disadvantages linked to the six defined equity groups (see Chap. 2), factors identified as variables in the model set out in Chap. 10, or the wider range of potential "equity like" (Crawford & Emery, 2021, p. 20) issues faced by the diverse student body in contemporary higher education.

The types of students facing the multiple associated challenges may include, but certainly not be limited to, those in the following list. While the categories of study challenges are presented individually, it is important to recognize that they are unlikely to be experienced as discrete issues. Rather students may face multiple challenges throughout their tertiary studies.

- Students admitted through alternative entry modes, other than secondary school results.
- Students who were not high achievers at school.
- Those who study part-time.

- Online and blended learning students.
- Students from low SES family backgrounds.
- Students who would currently be classified as low SES.
- Those who live in regional, rural, and remote locations.
- Those who choose to study remotely, rather than relocate to study on-campus.
- Mature-aged students.
- Students in full-time or part-time employment, many of whom depend on that income to support themselves and their families.
- Those with carer and family responsibilities.
- Students with one or both parents who were not educated at the tertiary level.
- Those who were brought up in areas with low tertiary participation rates and educated in schools with limited traditions of proceeding to higher education.
- Those from a non-English speaking background.
- Indigenous students.
- Students who have physical or mental health issues.
- Those with disabilities.

The students who were interviewed for the purposes of this study reported experiencing a multiplicity of these challenges, and the case studies illustrate the ways in which some of these multiple issues affected the subject students' studies.

Further, the case studies demonstrate interconnections and associations between the study challenges, suggesting that the participants in this research faced multiple issues which operated in concert to compound and complicate their tertiary education. We have labelled this phenomenon *multiple associated challenges which act in concert*.

5.11.1 Challenges Associated with Familial Backgrounds

As explained in Chap. 6, regional, rural, and remote residential location is one of the identified equity groups (Crawford, 2021; Edwards & McMillan, 2015; Productivity Commission, 2019). Other challenges such as being brought up in areas with low tertiary participation rates and educated in schools with limited traditions of proceeding to higher education (Chirnside, 2006; Madjar et al., 2010), having a parent who was not educated at the tertiary level (Bowden & Doughney, 2012; Krause et al., 2009; Marks, 2007), and being first-in family to attend university (Luzeckyj et al., 2017; O'Shea et al., 2018; Wainwright & Watts, 2019) have been recognized in the literature as non-equity issues of disadvantage. The overview of student study challenges in Table 5.1 revealed that a number of participants in this study came from a background—typically rural or remote—in which tertiary education was not valued. The parents of these students had often not been educated beyond a secondary level, and the students themselves were the first in their families of origin to enrol in university. Yolande reported such a challenging familial background, all of which may have contributed to her uncertainty regarding her first (and unsuccessful)

attempt at a tertiary qualification. It is likely that students who experience a lack of early support for further education, when combined with gender expectations for females, may delay pursuing higher education until they are mature-aged and have established their own supportive family network.

Students with a non-English speaking background constitute one of the six identified equity groups (Foster, 2012; Grebennikov & Skaines, 2008; Mestan, 2016). Data collected for this study concerning such students whose first language was not English was somewhat limited. Of the case study subjects, both Sarah and Jasmin identified as having a language other than English as their first language. However, both these mature-aged women had lived and worked in Australia for a considerable period, and their English skills were of a high-standard. Jasmin did nevertheless point out that her language competence was an issue when she enrolled to study.

Only two of the sample of students interviewed for this study, and none of the case study subjects, reported identifying themselves as being of indigenous Aboriginal or Torres Strait Islander heritage (Edwards & McMillan, 2015; James, 2008; Productivity Commission, 2019). This is one of the identified equity groups. One of these students (Irina—see Table 5.1) was in receipt of ABSTUDY, a Commonwealth Government benefit payment aimed at supporting indigenous students in further education. Bexley et al. (2013) note that students who rely on ABSTUDY and similar benefit payments are likely to be classified as low income.

5.11.2 Challenges Associated with Prior Educational Backgrounds

Even allowing for the participants enrolled in second degrees, only two of the students listed in Table 5.1 identified as having low secondary school achievement (Browman & Destin, 2016). Their delay in continuing to tertiary education may have been influenced by challenges associated with those students' familial backgrounds, as well as gendered expectations around working and raising a family. Whatever the reason, the consequent gap in learning—often as long as several decades—may negatively impact on a student's academic skills and confidence (Forbus et al., 2011; HESP, 2018). Having previously attempted a university degree without success may have a similar result (Carpenter & Krause, 2020).

The students who were the focus of the case studies did not report low achievement levels in their secondary schooling. Yolanda was the only student of the four who had previously attempted a degree without success. This was not due to failure in the academic elements of the nursing degree but rather her decision that she was not suited to eventual employment as a nurse. The students presented a continuum in terms of the gap in their learning between secondary and tertiary education. Yolanda, a “stay-at home” parent had not studied in the interim. Regan and Sarah had both worked in paid employment after leaving school and had undertaken vocational courses in connection with their jobs. Jasmin had completed both an undergraduate

and postgraduate degree prior to commencing her present studies. The commonality between these students was their being mature-age learners, and the strong motivation they all expressed about achieving success in their studies which would, in turn, facilitate their planned career change or entry into the work area they planned.

5.11.3 Challenges Associated with Current Personal Circumstances

5.11.3.1 Low SES

Low SES is one of the six identified equity groups, as well as being a variable shown in the SEM modelling to be a factor in student retention and admission. The impact of students' low SES and the associated challenges that often accompany such status is discussed in detail in the literature review set out in Chap. 2. It is clear from the literature that low SES circumstances may operate in concert with a myriad of other study challenges, including those described earlier as multiple associated challenges which act in concert (see e.g., Devlin & McKay, 2018; Edwards & McMillan, 2015; HESP, 2018; Productivity Commission, 2019; Walker-Gibbs et al., 2019). As explained in Chap. 4, SES is based on the geographical area (measured at SA1) of a given student's home address. In the qualitative study described in this chapter no data were collected in relation to the participants' home postcode locations as required for calculation of SES. As such, this study did not directly address the study challenges posed by low SES.

5.11.3.2 RRR Residential Locations

Tertiary students who reside in regional, rural, or remote locations are recognized as one of the six identified equity groups. As discussed in detail in Chaps. 2, 4, 6 and 10, there is a substantial body of literature in relation to the challenges faced by university students who are from, or living in, an RRR location. The increased remoteness of a student's residential location (determined by postcode), from outer regional through to remote, has been found to be a variable which influences the retention and success of tertiary students, as shown in the model set out in Chap. 10.

Analysis of the qualitative data collected for this study suggests that the location where a student resides is likely to be associated with their family circumstances, including the work situation of the student and/or partner, as well as their desire to relocate in order to be close to the university campus. As a consequence of their age and life experiences, a mature-aged student may well have established a family, home, and work base prior to commencing study, and may not wish to move (Crawford et al., 2022; Fray et al., 2020; Webb et al., 2015). The location may be at a distance from

campus that makes commuting unfeasible. In such circumstances, enrolment as an online student would seem to offer a useful alternative.

The personal circumstances of the students on whom the case studies are based illustrate some of the challenges and issues which may be associated with, and complicated by, a student's residential location. Sarah and her partner of long standing chose to give up their home, jobs, and support network they had established together interstate in order to move to Tasmania and resettle close to the university campus, so that Sarah could undertake blended learning. Jasmin also lived interstate at the time she enrolled but opted to remain in place and study online rather than dislocate her children, the jobs held by her and her partner, and their home and family lifestyle. Through becoming an online learner, she was able to pursue her career-changing qualification without disrupting her family members and their work and financial situation. Yolande and Regan both lived in rural/remote areas of Tasmania with their families, and also opted to study online, at a distance from the university, in order to maintain their established homes, families and social networks in their residential location of choice.

5.11.3.3 Age, Gender, Family, Work, and Study Load

A student's age, gender, and family and work circumstances, as well as their study load as a part- or full-time student, provide a clear example of the associations between challenges which may impact on their studies as well as the compounding and complicating effects of such interconnections. These study challenges are not included in the six identified equity groups. The factors of age and enrolment mode are, however, recognized in the retention model set out in Chap. 10 and discussed in Chap. 4. This wide range of personal circumstances have been examined in the literature both as individual issues, and as a group (see, e.g., Cherastidtham et al., 2018; Crawford et al., 2022; Hewson, 2018; Stone & O'Shea 2019a, 2019b).

The "intersectionality" (McMaster & Cook, 2019, p. 272) of the study challenges facing online students in terms of age, gender, family, work, and study load are well-evidenced in the literature. As Crawford and her colleagues (2022; see also Crawford, 2021) point out, both in Australia and internationally, online students are mostly older, female, and studying part-time. They have family, parenting and caring responsibilities, as well as undertaking paid work. Such students manage a complex balancing act in which they juggle their domestic responsibilities with the need to earn money and their desire for tertiary study and qualifications. (Stone & O'Shea, 2019b).

The data set out in Table 5.1 show that the great majority of the online students who were interviewed were mature-aged (over the age of 24). Most were female and more than half of the sample reported having family or carer responsibilities. Around three quarters of the sample were undertaking paid work as well as studying. As such, their demographic profile contrasts markedly with that of "traditional" university students who are characterized as being between 18 and 24 years old, single and without family responsibilities (James et al., 2010; Kuh et al., 2008).

Mature-aged students are likely to have established their own families, and perhaps have had children, before enrolling to study (“Higher Education Standards Panel, 2018; Productivity Commission, 2019). Many will have undertaken financial obligations which necessitate them and/or their partner having to work either part-time or full-time (Bruce-Sanford et al., 2015; Burke et al., 2022; van Rhijn et al., 2016). Although the situation may be slowly changing, female students are likely to bear the greatest burden in terms of keeping the home, looking after children, and caring for other family members (Aird et al., 2010; Stone & O’Shea, 2019a, 2019b; Crawford & Emery, 2021). These factors act together to impose serious time pressures on students. In such situations online study, which may be undertaken without the requirement of commuting, presents an attractive mode of study. Further, the need to manage study demands along with meeting the other aspects of busy lives means that part-time study may be a more practical and achievable alternative for many students, rather than taking on a full-time load of subjects. The differing life/study arrangements adopted by each individual student is likely to reflect the compromises and coping mechanisms they employ in relation to the study challenges that they face (see discussion in Chap. 7). Indeed, the literature suggests that while many traditional full-time students now work part-time to support themselves, at least to some extent (Edwards & McMillan, 2015), other students will work full-time and enroll in as many subjects as they can manage (James et al., 2010), even to the extent of maintaining full-time work concurrently with a full-time study load.

The case studies provide real-world examples of the study challenges which may arise in connection with a student’s age, gender, family, work, and study mode. All the case study subjects were mature-aged, female and studying wholly or partly online. All had established a family, be it with a partner only (Sarah), a partner and independent son (Regan), or a partner and dependent children (Yolande and Jasmin). All had responsibilities, other than study, which consumed time and energy. Sarah nurtured and supported her partner in re-establishing their lives in a new city, but had given up her previous work. At the time of data collection, she was studying part-time, but would normally be taking a full-time load. Regan maintained the family home and acreage property, and was not in paid employment. She was also enrolled on a full-time basis. Yolande was a “stay-at-home mum” and looked after two young children, her partner and home. In light of her domestic responsibilities, and a long gap since she last studied, she was studying part-time. Jasmin was a mother of two school-aged children, had domestic responsibilities in the home and was working full-time for family financial reasons. Jasmin was studying a full-time subject load. She had previously completed both an undergraduate and a postgraduate degree, and was strongly motivated to gain her current degree in order to support a change in her career. In all the case studies the common themes which emerge are the amount of time the student has available for study, the degree to which they had developed time and study management skills as well as academic confidence, and the coping mechanisms they employed in relation to the challenges they faced.

5.11.3.4 Physical and Mental Health and Disabilities

The literature suggests that the challenges posed by student physical and mental health issues, and disability are significant (see e.g., Brett, 2016; Crawford, 2021; HESP, 2018; Kilpatrick et al., 2017; Stone, 2017). The qualitative data collected from participants in this study is, however, limited. Five members of the student sample reported experiencing physical and mental health issues during their study, and two students identified as living with disability. Most of the participants with physical and mental health problems received support from their teachers and/or from central university services. Both students with disability were aware of the centralized support available from the university and had, to some extent, utilized such support. None of the case study students reported experiencing these kinds of study issues.

5.11.3.5 Challenges Associated with Online Study

The list of multiple associated challenges acting in concert set out earlier in this section includes online students. As previously discussed, studying online may be associated with a myriad of other issues, including residential location, the desire not to relocate, family and caring responsibilities, and paid employment obligations. The experience of undertaking study in an online mode—wholly or as an element of blended learning—can be accompanied by study challenges associated with the nature of online study itself. These may include problems with IT (Crawford et al., 2022; Snoussi, 2019; Stone, 2019), and feelings of isolation (Bruce-Sanford et al., 2015; Ragusa & Crampton, 2018; Stone & O’Shea, 2019b). The latter issue is discussed in detail in Chap. 17. The data in Table 5.1 shows that around a quarter of the students who were interviewed for the study had difficulties with IT, specifically with understanding and using the university Learning Management System (LMS). A little over a third of the total sample reported feeling isolated during their online study.

In terms of the case study subjects, Yolande, Sarah and Regan did not report any particular IT study challenges. They were comfortable with using the LMS, and Regan had benefited from orientation preparation about navigating the system. Jasmin’s experience was very different. She had considerable difficulty with initially understanding and using the LMS and relied heavily on advice provided by her teacher and the centralized university IT support resources. It is not suggested that there is a causal link, but it may be relevant that both Jasmin’s prior degrees were undertaken on-campus, with little contact with an LMS. Of the four students who were the focus of the case studies, only Regan indicated that she had felt isolated and lonely during her online study. Her preference had been to study face-to-face on-campus, but this had not been practical because of her personal circumstances. Regan reported her belief that her connection with her fellow students online was of a lesser quality than would have occurred if she was interacting with her peers in

person. To alleviate her isolation, Regan initiated face-to-face meetings with some of her online peers.

5.12 Conclusion

It is submitted that the concept of multiple associated challenges acting in concert is useful in highlighting the issues faced by the diverse student body in universities which have adopted the contemporary model of admission outlined in Chap. 4. It complements the list of six defined equity groups (Department of Education, Skills and Employment, 2020), as well as the variables identified in the student retention and success model presented in Chap. 10. It shows that the range of potential equity and “equity like” (Crawford & Emery, 2021, p. 20) challenges that may impact the now diverse student body are wide and complex. The notion that the multiple challenges act in concert means that the study challenges should not be considered purely in isolation, but, perhaps more importantly, in terms of their intersecting impacts.

Traditionally, university support services have commonly provided separate support schemes for the six defined equity groups. While contemporary universities have adapted their mode of teaching and learning to admit a more diverse student body, it is suggested elsewhere in this book (see, in particular, Chaps. 19 and 20) that there may not have been complementary changes to support systems to aid students in coping with the multiple associated challenges acting in concert which they face. The provision of support systems to suit the needs of all students, including those studying online and dealing with such study challenges, requires further investigation.

References

- Aird, R., Miller, E., van Megen, K., & Buys, L. (2010). *Issues for students navigating alternative pathways to higher education: Barriers, access, and equity*. Queensland University of Technology.
- Bennett, A. (2022). Drawing contingent generalizations from case studies. In J. Widener, M. Woolcock, & D. Ortego Nieto (Eds.), *The case for case studies: Methods and applications in international development* (pp. 62–86). Cambridge University Press.
- Bexley, E., Daroesman, S., Arkoudis, S., & James, R. (2013). *University student finances in 2012: A study of the financial circumstances of domestic and international students in Australia's universities*. Universities Australia.
- Bowden, M. P., & Doughney, J. (2012). The importance of cultural and economic influences behind the decision to attend higher education. *The Journal of Socio-Economics*, 41(1), 95–103. <https://doi.org/10.1016/j.socec.2011.10.003>
- Brett, M. (2016). Disability and Australian higher education: Policy drivers for increasing participation. In A. Harvey, C. Burnheim, & M. Brett (Eds.), *Student equity in Australian higher education* (pp. 87–108). Springer. https://doi.org/10.1007/978-981-10-0315-8_6
- Browman, A. S., & Destin, M. (2016). The effects of a warm or chilly climate toward socioeconomic diversity on academic motivation and self-concept. *Personality and Social Psychology Bulletin*, 42(2), 172–187. <https://doi.org/10.1177/0146167215619379>

- Bruce-Sanford, G., Heskeyahu, T., Longo, J., & Rundles, K. (2015). The role of counseling centers for serving non-traditional students in higher education. *PAACE Journal of Lifelong Learning*, 24, 7–30. <https://doi.org/10.4324/9781003235415>
- Burke, K., Fanshawe, M., & Tualalelei, E. (2022). We can't always measure what matters: Revealing opportunities to enhance online student engagement through pedagogical care. *Journal of Further and Higher Education*, 46(3), 287–300. <https://doi.org/10.1080/0309877X.2021.1909712>
- Carpenter, R., & Krause, T. (2020). Potential determinants of students' academic success in private tertiary education in South Africa. *The Business & Management Review*, 11(2), 69–78. <https://doi.org/10.24052/BMR/V11NU02/ART-09>
- Cherastidtham, I., Norton, A., & Mackey, W. (2018, November). *University attrition: What helps and what hinders university completion* (Grattan Institute Background Paper No. 2018-08). Grattan Institute.
- Chirnside, J. A. (2006). Access and participation in tertiary education: A study of students from low decile schools attending the University of Canterbury (Published Master of Arts thesis). University of Canterbury. <https://doi.org/10.26021/4923>
- Crawford, N. (2021). *On the radar: supporting the mental wellbeing of mature-aged students in regional and remote Australia* (pp. 1–113). National Centre for Student Equity in Higher Education. <https://doi.org/10.5456/WPLL.24.2.30>
- Crawford, N., & Emery, S. (2021). "Shining a light" on mature-aged students in, and from, regional and remote Australia. *Student Success*, 12(2), 18–27. <https://doi.org/10.5204/ssj.1919>
- Crawford, N., Emery, S., & Stone, C. (2022). Mature-aged students' experiences of learning online in regional and remote Australia: An ecological systems perspective. *Widening Participation and Lifelong Learning*, 24(2), 30–57. <https://doi.org/10.5456/WPLL.24.2.30>
- Department of Education, Skills and Employment. (2020). *2017 Section 11—Equity groups*. <https://docs.education.gov.au/documents/2017-section-11-equity-groups>
- Devlin, M., & McKay, J. (2018). The financial realities for students from low SES backgrounds at Australian regional universities. *Australian and International Journal of Rural Education*, 28(1), 121–136. <https://doi.org/10.3316/informit.266699422435203>
- Donaldson, J. F., Graham, S. W., Martindill, W., & Bradley, S. (2000). Adult undergraduate students: How do they define their experiences and their success? *The Journal of Continuing Higher Education*, 48(2), 2–11. <https://doi.org/10.1080/07377366.2000.10400400>
- Edwards, D., & McMillan, J. (2015). *Completing university in Australia*. Australian Council of Educational Research.
- Forbus, P., Newbold, J. J., & Mehta, S. S. (2011). A study of non-traditional and traditional students in terms of their time management behaviors, stress factors, and coping strategies. *Academy of Educational Leadership Journal*, 15, 109.
- Foster, G. (2012). The impact of international students on measured learning and standards in Australian higher education. *Economics of Education Review*, 31(5), 587–600. <https://doi.org/10.1016/j.econedurev.2012.03.003>
- Fray, L., Gore, J., Harris, J., & North, B. (2020). Key influences on aspirations for higher education of Australian school students in regional and remote locations: A scoping review of empirical research, 1991–2016. *The Australian Educational Researcher*, 47(1), 61–93. <https://doi.org/10.1007/s13384-019-00332-4>
- Grebennikov, L., & Skaines, I. (2008). University of Western Sydney students at risk: Profile and opportunities for change. *Journal of Institutional Research*, 14(1), 58–70.
- Hewson, E. R. (2018). Students' emotional engagement, motivation and behaviour over the life of an online course: Reflections on two market research case studies. *Journal of Interactive Media in Education*, 1(10). <https://doi.org/10.5334/jime.472>
- Higher Education Standards Panel. (2018). *Improving retention, completion, and success in higher education*. Australian Department of Education and Training. <http://hdl.voced.edu.au/10707/458258>

- James, R. (2008). *Participation and equity: A review of the participation in higher education of people from low socioeconomic backgrounds and Indigenous people* (Doctoral dissertation). Centre for the Study of Higher Education, University of Melbourne.
- James, R., Krause, K.-L., & Jennings, C. (2010). *The first year experience in Australian universities: Findings from 1994 to 2009*. Centre for Studies in Higher Education, University of Melbourne. <https://pdfs.semanticscholar.org/a2bb/d97133f28e0ccc743afa3373a5ff4554bbd9.pdf>
- Kilpatrick, S., Johns, S., Barnes, R., Fischer, S., McLennan, D., & Magnussen, K. (2017). Exploring the retention and success of students with disability in Australian higher education. *International Journal of Inclusive Education*, 21(7), 747–762. <https://doi.org/10.1080/13603116.2016.1251980>
- Krause, K. L., Vick, M., Boon, H., Bland, D., & Clark, J. A. (2009). *A fair go beyond the school gate? Systemic factors affecting participation and attainment in tertiary education by Queensland students from LSES backgrounds*. Queensland Government/Eidos Institute.
- Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *Journal of Higher Education*, 79(5), 540–563. <https://doi.org/10.1080/00221546.2008.11772116>
- Luzecyjk, A., McCann, B., Graham, C., King, S., & McCann, J. (2017). Being first in family: Motivations and metaphors. *Higher Education Research & Development*, 36(6), 1237–1250. <https://doi.org/10.1080/07294360.2017.1300138>
- Madjar, I., McKinley, E. A., Deynzer, M., & Van der Merwe, A. (2010). *Stumbling blocks or stepping stones? Students' experience of transition from low-mid decile schools to university*. Starpath Project, The University of Auckland.
- Marks, G. (2007). *Completing university: Characteristics and outcomes of completing and non-completing students (Longitudinal surveys of Australian youth, Research report number 51)*. Australian Council for Educational Research.
- McMaster, N., & Cook, R. (2019). The contribution of intersectionality to quantitative research into educational inequalities. *Review of Education*, 7(2), 271. <https://doi.org/10.1002/rev3.3116>
- Mestan, K. (2016). Access, achievement and outcomes among students from non-English speaking backgrounds. In A. Harvey, C. Burnheim, & M. Brett (Eds.), *Student equity in Australian higher education* (pp. 125–141). Springer. https://doi.org/10.1007/978-981-10-0315-8_8
- O'Shea, S., Stone, C., Delahunty, J., & May, J. (2018). Discourses of betterment and opportunity: Exploring the privileging of university attendance for first-in-family learners. *Studies in Higher Education*, 43(6), 1020–1033. <https://doi.org/10.1080/03075079.2016.1212325>
- Productivity Commission. (2019). *The demand driven university system: A mixed report card-research paper*. Australian Government. <https://policycommons.net/artifacts/1638772/the-demand-driven-university-system/2329731>
- Ragusa, A. T., & Crampton, A. (2018). Sense of connection, identity and academic success in distance education: Sociologically exploring online learning environments. *Rural Society*, 27(2), 125–142. <https://doi.org/10.1080/10371656.2018.1472914>
- Snoussi, T. (2019). Learning management system in education: Opportunities and challenges. *International Journal of Innovative Technology and Exploring Engineering*, 8(12S), 664–667. <https://doi.org/10.35940/ijitee.L1161.10812S19>
- Stake, R. E. (2005). Qualitative case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 443–466). Sage.
- Stone, C. (2017). *Opportunity through online learning: Improving student access, participation and success in higher education*. NCSEHE.
- Stone, C. (2019). Online learning in Australian higher education: Opportunities, challenges, and transformations. *Student Success*, 10(2), 1–11. <https://doi.org/10.5204/ssj.v10i2.1299>
- Stone, C., & O'Shea, S. (2019a). Older, online and first: Recommendations for retention and success. *Australasian Journal of Educational Technology*, 35(1), 57–69. <https://doi.org/10.14742/ajet.3913>

- Stone, C., & O'Shea, S. (2019b). My children ... think it's cool that Mum is a uni student: Women with caring responsibilities studying online. *Australasian Journal of Educational Technology*, 35(6), 97–110. <https://doi.org/10.14742/ajet.5504>
- Trow, M. (1973). *Problems in the transition from elite to mass higher education*. OECD.
- Trow, M. (2007). Reflections on the transition from elite to mass to universal access: Forms and phases of higher education in modern societies since WWII. In P. Altbach (Ed.), *International handbook of higher education* (pp. 243–280). Springer.
- van Rhijn, T. M., Lero, D. S., Bridge, K., & Fritz, V. A. (2016). Unmet needs: Challenges to success from the perspectives of mature university students. *Canadian Journal for the Study of Adult Education*, 28(1), 29–47. <https://cjsae.library.dal.ca/index.php/cjsae/article/view/4704>
- Wainwright, E., & Watts, M. (2019). Social mobility in the slipstream: First-generation students' narratives of university participation and family. *Educational Review*, 1–17. <https://doi.org/10.1080/00131911.2019.1566209>
- Walker-Gibbs, B., Ajjawi, R., Rowe, E., Skourdoumbis, A., Thomas, M., O'Shea, S., Bennett, S., Fox, B., & Alsen, P. (2019). *Success and failure in higher education on uneven playing fields*. NCSEHE
- Webb, S., Black, R., Morton, R., Plowright, S., & Roy, R. (2015). *Geographical and place dimensions of post-school participation in education and work* (Research report). ERIC.

Chapter 6

The Importance of Online Learning to Enhancing the Participation of Regional, Rural and Remote Higher Education Students



Michael Corbett, David Hicks , and Si Fan

Abstract This chapter discusses findings from a study that aimed to investigate whether online learning enhances RRR participation in higher education. This study used a mixed methods approach and collected data from interviews and the student record system at an Australian regional university. The interviews were conducted with 41 students studying online or by blended learning at this university. The interview transcripts were analysed using a thematic analysis approach, and the quantitative data collected from the student record system were analysed using structural equation modelling (SEM). The work of Pierre Bourdieu is used as an overarching theoretical framework for the discussion in this chapter. Results of the thematic analysis indicate a clear influence of cultural, social, and economic capital on RRR students' decision-making in relation to participating in higher education. In particular, a rural background, rural family expectations, and being the first in the family to undertake higher education acted as barriers to participation. RRR origins could decrease participation through a reluctance to relocate or an inability to commute. Competing commitments from family, employment, or financial pressures could also prohibit enrolment if only offered on campus. Nevertheless, we found students who preferred the flexibility of the online mode. We conclude that online learning could either reduce or mitigate barriers to participation and/or competing commitments.

M. Corbett (✉)

School of Education, Acadia University, Wolfville, Nova Scotia, Canada
e-mail: michael.corbett@acadiau.ca

D. Hicks

School of Education, University of Tasmania, Hobart, Tasmania, Australia
e-mail: David.Hicks@utas.edu.au

S. Fan

University of Tasmania, Hobart, Tasmania, Australia
e-mail: si.fan@utas.edu.au

6.1 Introduction

Online learning is heralded as an emerging opportunity for educational inclusion and equity. If educational programming can be accessed online, then, the argument goes, longstanding barriers to access posed by rurality and remoteness, or by poverty, work obligation, family support requirements, and social isolation, might be mitigated. Tertiary education institutions around the world have worked to develop online and hybrid/blended learning options which are typically rationalised in terms of improved access for geographically or socially isolated learners who may not otherwise have access to study options, credentials, and ultimately, to employment opportunities afforded by higher education. It should also be noted that online offerings provide universities with enhanced access to students who may not be willing or able to enrol in face-to-face learning.

Despite this promise, data on persistence of remote students accessing tertiary education online (e.g. Holder, 2007), which are influenced by recent events, particularly the global pandemic, have highlighted a number of problems and opportunities relating to online education. The experience of educational institutions, particularly that of universities, has shown that while online offerings expand the notional availability of multiple study options, the situation is more complex than a simple analysis of improved formal online access might imply. A deeper analysis of learners' lives, and the complexities they encompass, has shown how challenges may be mitigated, but not solved, by online access. For example, one key outcome of the global pandemic and the response it has provoked in institutions of education at all levels, is that online learning has moved from the periphery to the centre of many strategic and programming conversations. As schools and universities have shut down to protect public health, many educators have found themselves unprepared for the multiple challenges they and their students face.

The movement of educational environments into virtual space has also highlighted social and geographic locations in which access is insufficient for optimal educational engagement. Education always demands things of those who undertake it in the form of time, money, literacy, a belief that it is worth doing, technologies and the ability to use them, and social networks that offer support to endure the opportunity costs assumed when someone forgoes ready employment. In middle class families, the adolescent "moratorium" identified by Erik Erikson (1968) to allow for the completion of secondary schooling has been enhanced by an extended period in which some relatively privileged young people are allowed to forego employment for extended tertiary education, often into their 30s (Arnett, 2014).

To understand student participation and retention more fully, we take a mixed methods approach that combines statistical quantitative analysis with a qualitative case study. In this chapter we provide an analysis and discussion of both the quantitative and qualitative segments of the study. First we examine the quantitative phase of the study.

6.2 Online Learning as Unevenly Structured Space

In Australia there are six identified equity groups (DEET, 1990), one of which concerns us here: those originating from regional and remote locations, based on statistical areas of permanent home residence. In other words, this classification refers to students whose permanent home address is in places defined as regional and remote in the Accessibility/Remoteness Index of Australia (ARIA). We interpret this equity category definition as referring to the concept of rural or regional origins, i.e., having been brought up in such an area or having chosen to live in one.

There are a number of major Australian reports referring to RRR students (Productivity Commission, 2019; Wellings et al., 2019) which make no reference to online study as a means by which students are able to undertake university study. The reports instead assume that students will relocate to study on-campus. This assumption no longer holds. There is also extensive discussion of the support which is needed once the relocation has taken place and students have enrolled. While the provision of online learning increases participation by RRR students, at the same time, evidence indicates that persistence in online university educational programming is problematic in terms of retention (Bawa, 2016; DESE, 2020; Kember et al., 2019; Levy, 2007). Given that many regional Australian universities have developed extensive distance learning operations, the intersection of online learning, persistence, and regional geographic location is important to study.

We take a broader approach to regional, rural, and remote students. The other contrasting construct is that of **remote study**. This construct refers to those who study at a distance from a university campus, most commonly by online learning, rather than attending classes on-campus. Categorisation of students for this construct needs to be based on the student's term address; so refers to the study location rather than the student's place of origin.

6.3 Online Learning and Rural and Regional Access

Chapter 4 in this book discussed the expansion and diversification of the student body in higher education in terms of a spectrum from traditional to contemporary models for admission and course delivery. A shift to the contemporary end of the spectrum was characterised by the adoption of degrees of three key elements of open learning. For the purposes of this chapter, the important element is the availability of online learning, which permits freedom over where study takes place.

The quantitative and qualitative data for this study were collected from students at a regional Australian university, which was the university with the contemporary model of admission and course delivery, featured in Chap. 4. Table 4.1 in Chap. 4 showed that the university had 71.3% of undergraduate students not studying on-campus, whereas three comparison universities had less than 10%. As a result, 39.7% of students attending the regional university were themselves living in outer regional,

remote and very remote areas, whereas the highest proportion in the other three universities was 6.2%. The regional university also had greater proportions of mature and low socioeconomic status (SES) students, hinting at the intersection of multiple factors following the adoption of a contemporary online learning model.

The quantitative study: Aims and hypothesised model

The quantitative part of this study had the following objectives:

1. To better characterise the contemporary online model of admission and course delivery, which has boosted the enrolment of rural, regional and remote students.
2. The section above suggests that the contemporary online model is a multifaceted phenomenon. The study, therefore, aimed to examine how the facets act together in a concerted model.
3. To examine how the facets of the contemporary online model together influence the admission, retention and success of rural, regional and remote students.
4. To examine qualitatively the experience of RRR online learners in the university with the contemporary online model of admission and course delivery.

These objectives call for a technique capable of examining complex multivariate phenomena. Structural equation modelling (SEM) was therefore used. SEM tests the goodness of fit of a hypothesised model using a suitable body of data for the variables in the model. Chapter 1 in this book contains an introduction to SEM.

The hypothesised model is a development based on a model of attrition and success of online students (Kember et al., 2019). The model comprises three phases. There are six presage variables. Remote study and rural origins are two of these, because of the main focus of the study. Socioeconomic status (SES) is also included as a measure of the diversity of the student body. The other three: study mode, admission category, and study load are the key elements of open learning and, therefore, the principal characteristics of the contemporary online model of admission and course delivery. There are two intermediate variables; age and year of study. The two outcome variables are dropout and grade point average (GPA).

The hypothesised model is shown in Fig. 6.1.

6.4 Method

6.4.1 Variables

This section describes the meaning of the variables in the model and how they were coded.

Admission category was used as a measure of entry qualifications. This variable was preferred to tertiary entrance scores as many of the rural, regional, remote and low SES students were admitted on a basis other than tertiary entrance score. Those students would have been excluded from the study if tertiary entrance scores were used as a measure of admission qualifications. Admission category was based upon

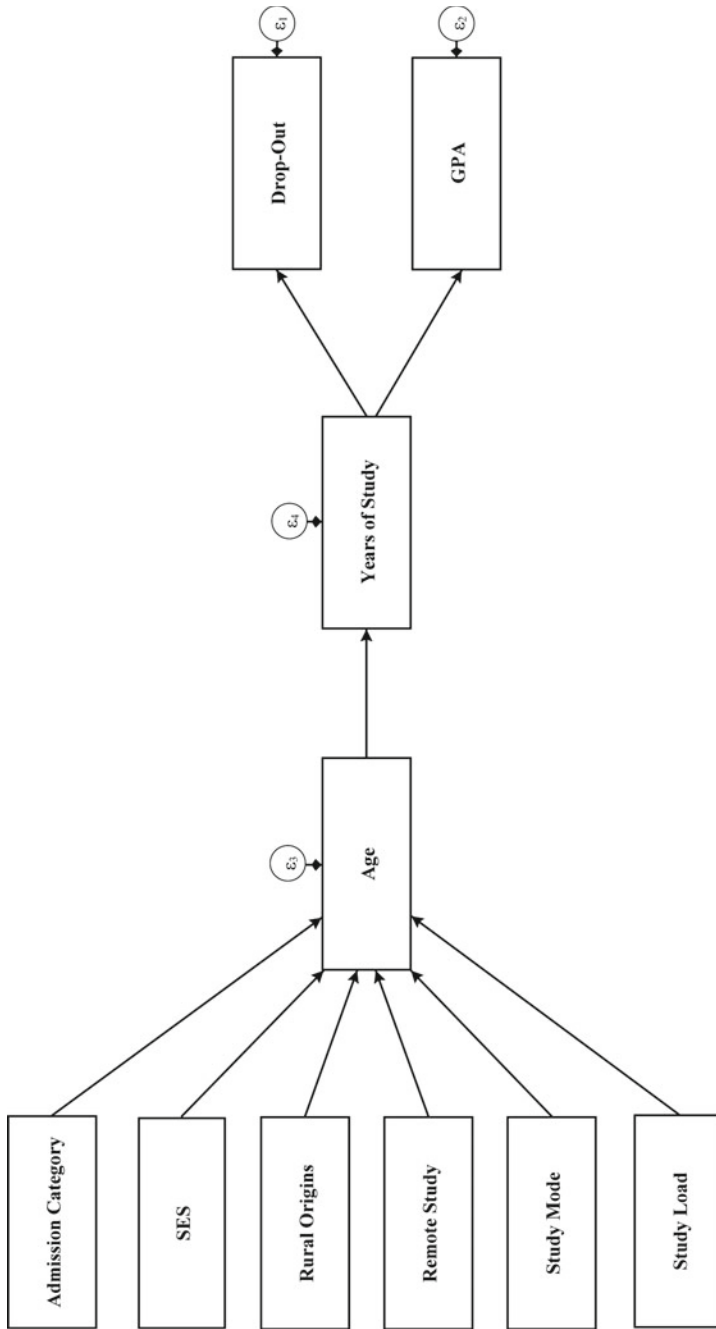


Fig. 6.1 The hypothesised model of admission, retention and success of RRR students

an ordering of admission categories from completion of secondary education, and the attainment of a tertiary entrance score, to less formal qualifications. The admission categories are used by Australian university admissions officers in a hierarchical manner. Highest in the hierarchy are the top-ranked formal qualifications; lowest are informal experience-based qualifications. In view of this hierarchical coding, it was reasonable to treat the admissions category variable as continuous.

SES is a measure of wealth and social status. In Australia it was calculated for defined areas, using sets of weighted measures from census data. The measure of socio-economic status used in this study was the Australian Index of Education and Occupation (IEO), which is the measure of SES that takes most account of educational status and achievement indicators. The IEO measure used here reflects the student's home address. Our coding procedure employed three categories (low, medium, and high), which appears to have become the standard way of reporting SES in Australian higher education.

Rural origins was a measure of the remoteness of students' permanent home address. It is based on an analysis of postcodes using the Accessibility/Remoteness Index of Australia (ARIA), which is the official Australian measure of remoteness. The ARIA index is a five-point scale ranging from Major City to Very Remote. Remote study also uses the ARIA categories, but was based on term-time address.

Study mode was based upon the proportion of subjects in which a student had enrolled, which were classified as online or on-campus. In the university student record system, study mode is a dichotomous classification of online or on-campus. Subjects classified in either category could have some degree or type of blended learning. Study mode was coded as online if more than 75% of subjects were taken online, and on-campus if more than 75% of subjects were taken on-campus. The remainder were coded as mixed. Our coding used the following categories: 1 = on-campus, 2 = mixed, 3 = online. The coding, therefore, reflects a progression in the degree of direct instructor-student contact from most to least. In view of the empirical evidence of the impact of instructor-student contact on integration and attrition, it therefore seemed reasonable to treat mode of study as a continuous variable.

Study load was a measure of the proportion of a full-time load taken by the students. It was, therefore, a measure of the degree to which the students were part-time. The two intervening variables were age and year of study. Values for these were taken directly from the student record database. Years of study is the number of years since enrolment. The Dropout variable was based upon whether the students dropped out during the year of the analysis, so were not included in the subsequent year's enrolment file. The other two categories were for continuing students or those who had completed their studies. These three categories constitute a continuous variable.

The grade point average (GPA) was based upon the student's average grade point in their units of study, weighted by the credit weighting of each unit of study. GPA scores range from 0 to 7. A student who dropped out from, or failed, every unit would receive a GPA of 0. A student with a high distinction grade in every unit would have a GPA of 7. GPA can, therefore, be interpreted as a measure of academic success, as well as an indicator of dropout.

6.4.2 *Sample*

The database used for the study was the student record system of the regional Australian university; which had adopted a contemporary model of admission and course delivery. Some variables, such as GPA, were taken directly from the database. Others took the entry in the database and re-coded to give a numerical variable suited to the SEM analysis.

The samples were of undergraduate students. Those in short courses, like professional honours, were excluded as they would have completed a prior undergraduate course. They would not, therefore, experience the issues faced by new entrants. International students were excluded, as the study focussed on domestic Australian students. The sample for the study was undergraduate students enrolled in courses in; arts, business, education, health sciences, and science. These disciplines all have a range of students studying on-campus and online, including those remote from any of the campuses. The total sample for the study was 8,911 after those with incomplete records were deleted.

6.4.3 *Assessing Model Fit*

Path analysis was performed in STATA 14 (2017) using maximum likelihood estimation and robust standard errors to adjust for non-multivariate normality (Chou et al., 1991). The hypothesised model was estimated and assessed. A Lagrange Multiplier test was then conducted to ascertain whether model fit could be improved by the addition of paths and a Wald test was conducted to ascertain whether model fit could be improved by the removal of paths. Paths were added if they were: (a) statistically significant and (b) theoretically plausible; paths were removed if they were: (a) statistically insignificant and (b) their removal was theoretically plausible. The model was then re-estimated and assessed for fit.

Goodness of fit of SEM models is based on fit indices. Assessment of goodness of fit of the model to the data was based on three fit indices: (a) Comparative Fit Index (CFI), (b) standardised root mean squared residuals (SRMR), and (c) root mean square error of approximation (RMSEA). The level of fit is determined by whether values for fit indices exceed accepted values in the literature. CFI shows whether the model has a good fit to the data, and has an accepted threshold values of $CFI > 0.95$ for a good fit to the data and $CFI > 0.90$ for an acceptable fit. SRMR and RMSEA are measures of the degree of error in a model. A good fit is, therefore, indicated if values are lower than the threshold. $SRMR < 0.08$, and $RMSEA < 0.06$ indicate a good fit (Hu & Bentler, 1999).

6.5 Results

The initial model was a relatively poor fit to the data (CFI = 0.878, SRMR = 0.160, and RMSEA = 0.134). Based on the results of the Lagrange Multiplier test, five additional paths were added to the model—(1) from Admission Category to Years of Study, (2) from Study Load to Years of Study, (3) from Study Load to GPA (4), From Study Load to Drop-Out, and (5) from GPA to Drop-Out. The refined model (Fig. 6.2) demonstrated a considerable improvement across all employed fit indices (CFI = 0.941, SRMR = 0.023, RMSEA = 0.050). All added paths were both statistically and practically significant. Chapter 1 gives an explanation of the interpretation of the diagrammatic representations of SEM models.

6.6 Discussion

6.6.1 Overall Model

The good fit of the final model indicates that the theoretical conceptualisations posited at the introduction of the quantitative analysis, and incorporated into the modelling, is an appropriate way to visualise the admission, retention and success of rural, regional, and remote students. The model suggests that the recruitment and support of regional and rural students' needs to be interpreted as a multifaceted phenomenon influenced by a wide range of factors which act in concert. Rural and regional students do need flexibility over when and where they study. Success and retention cannot be predicted directly from enrolment characteristics, but depends on what happens during the course of study. There were no direct paths from rural origins, remote study or SES to either of the outcome variables. Rather, these three variables were related to the outcome variables via the whole model.

The process in our analysis is even more complex than the model suggests. The model and variables included in it were restricted to those which were included in the student record database, or that could readily be obtained from those which were. Our qualitative investigations that are detailed below indicate that other factors played a part and an appropriate metaphor was that of students facing multiple associated challenges acting in concert (see Chap. 5). For example, the path coefficients in the model indicate that students from rural origins and studying remotely tend to be somewhat older, as is shown in the following section. More mature students are more likely to have conflicting commitments, like employment, family, or carer responsibilities, that they must juggle to fit in with study requirements. Their ability to cope with this array of conflicting demands associated with their lifestyles while completing study requirements, are the determinants of retention and success.

Rural origins, remote study, and SES had no direct paths to the outcome variables. The relationship between these variables and dropout and GPA, therefore, has to be as an indirect effect via paths through the intermediate variables of age and years of

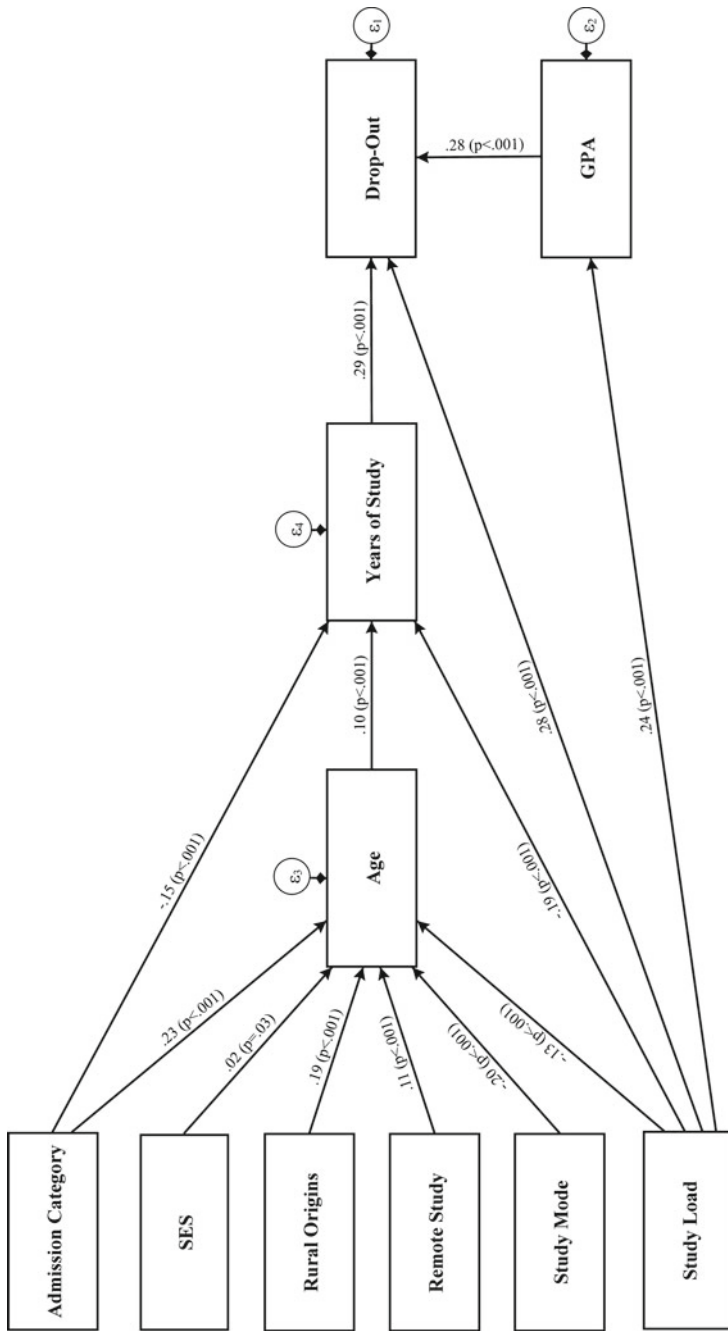


Fig. 6.2 The final standardised model of admission, retention and success of RRR students

study. The indirect effect for rural origins on the outcomes was just 0.005 and that for remote study 0.003, due to the small path coefficient between age and years of study. These magnitudes are very small and statistically insignificant. SES is even less linked to attrition as its path coefficient to age was also very small and non-significant. It is pertinent to include SES in the discussion here as rural and regional status tends to be related to low SES status.

The practical interpretation of these findings is of interest, as it implies that students from rural origins and studying remotely are not more likely to dropout or fail to complete their degrees than are their urban peers. Similarly, the performance of low SES students is indistinguishable from those from higher SES communities which potentially challenges rural deficit assumptions. Rural, remote, and low SES students have been placed in defined equity categories in Australia because they are considered to be educationally disadvantaged; yet this study has found that being in a rural, remote, or low SES category does not imply poorer study outcomes. Rural, regional, and low SES students are not predestined to dropout or fail to complete their degrees.

There have been other studies which, at face value, appear to show rural and regional (e.g. Commonwealth of Australia, 2019; Productivity Commission, 2019) and low SES students (e.g. HESP, 2017; Norton & Cherastiditham, 2018; Productivity Commission, 2019) appearing to perform less well. However, this is because they are single variable studies. As long ago as 1980, Pascarella and Terenzini (1980) cautioned that “there appears to be a wealth of statistically reliable, ex post facto associations that offer a markedly unparsimonious explanation of the dropout process” (p. 60).

More sophisticated research into attrition has turned attention to the development of models that recognised the multivariate nature of attrition and ceased to treat it as being able to be predicted by entry characteristics. The most widely cited are the longitudinal process models of Tinto (1975, 1987, 1993, 2012, 2015; Engstrom & Tinto, 2008), which posit the importance of social and academic integration during the course of their degrees as a central factor in retention. If multivariate modelling is used, rather than single variable statistics, the effect of rural, regional, and low SES status becomes partialled out into other variables. Any effect on retention is manifest through the other multiple associated challenges acting in concert with SES and geographic location. Chapter 9 has a detailed discussion of this issue in the context of a review of the literature on attrition.

6.6.2 Age and Rural and Remote Students

The most important insights from SEM analysis are provided by looking at the model as a whole, and SEM recognises that phenomena in the social sciences are often ill-defined and require examination wholistically through a multivariate lens. Nevertheless, it can be instructive to consider the relationship between pairs of variables in the model by examining the magnitude of the standardised coefficients.

As this research is primarily about rural, regional, and remote students, the initial focus needs to be on the geographic variables rural origins and remote study. The only paths from these variables are to age. Both of these paths have significant positive standardised coefficients. Our interpretation here is that those who originate from rural regions and/or who study remotely tend to be older than the mean age of the student population.

6.6.3 *Mature Students*

As rural, regional, and remote students tend to be somewhat older or more mature than the average student, it is worthwhile examining the relationship between age and other variables in the model. Examining the presage variables, the path coefficient from admission category to age is positive and significant, which means that older students tend to have entered university via non-traditional paths, rather than through secondary school performance. The standardised coefficient for the path from study mode to age is negative, showing that older students tend to study online rather than on-campus. The path from study load to age has a negative standardised coefficient, implying that older students are more likely to elect part-time study. The other pertinent path is that between age and years of study, which has a positive standardised coefficient, which suggests that older students tend to take somewhat longer to complete their degrees.

Taken together, the information from the path coefficients can be interpreted as consistent with the thesis of this study which is that the participation of rural and regional students can be promoted through the adoption of open learning principles. The Open University was founded by the UK primarily to provide a second chance of university education to mature students who had been unable to gain entry to university upon completing secondary schooling (Dorey, 2015; Kember, 1995; Lewis & Spencer, 1986), as all evidence indicates how higher education was an elite system at the time (Trow, 1973, 2005). The Open University was founded to provide tertiary study options for mature students.

The modelling in this study has confirmed that rural, regional, and remote students are consistent with being somewhat older. The links in the model then show that older students tend to have taken advantage of the three key facets of open learning to enter university. They are more likely to: have been admitted through non-traditional entry paths; study by online learning rather than on-campus; and study part-time and thus take longer than the standard time to complete their degrees. We conclude that their more mature and complex life circumstances require additional flexibility which may not be as necessary for traditional students.

Our SEM modelling illustrates how more nuanced multivariate path analysis can offer greater analytic complexity which we have used to interrogate further the findings reported above. To further understand the complexity of student attrition phenomena, qualitative analysis follows from our treatment of the quantitative data. The following section provides a window in the lived experience of a sample of

students enrolled at the regional university which had a well subscribed contemporary online and hybrid model of admission and course delivery.

6.7 Qualitative Methodology

Our quantitative analysis detailed above demonstrates significant differences between regional and more metropolitan universities both in terms of student intake, the propensity of students to undertake online study, and in terms of program completion. Qualitative data for this study were collected from semi-structured interviews conducted with 41 students, as detailed in Chap. 1. Data coded to regional, rural, and remote study were extracted from the database.

The data were analysed using an iterative thematic approach (Braun & Clarke, 2006; Yin, 2016) combining both deductive and inductive analysis. This enabled the researchers to view the data in terms of pre-existing themes derived from the literature, while being aware of new patterns that emerged during the analysis (Percy et al., 2015; Vaismoradi et al., 2013). The data were coded separately by two researchers. Line-by-line coding was undertaken, and descriptive codes were generated. As the data were continually compared, those descriptive topic codes were refined and grouped into higher-order conceptual categories based on the emergent interconnections (Hesse-Biber & Leavy, 2011; Kennedy, 2016). The patterns within the data were then examined by the research team in order to develop overarching themes (Morgan, 1998; Percy et al., 2015).

6.8 Overview of the Thematic Analysis

The thematic analysis produced a set of eight main themes in relation to potential barriers to participation in university study. The themes could also be interpreted as hurdles to be overcome for a student to enrol for university study and which elaborate the quantitative finding about the different age, study option choices and performance of RRR students. We analysed these themes using the theoretical lenses of Bourdieu's 'thinking tools' (Rawolle & Lingard, 2013).

The main themes are presented as a progression or continuum. They start with the barriers which arise from having an RRR background and from the pressures to conform with the norms of rural communities. Family traditions and expectations are a closely related hurdle. The combination of an RRR upbringing and family barriers can lead to a reluctance to relocate to study on-campus.

The remaining themes relate to an inability to study on-campus, particularly for full-time study. Online learning then enters into the equation, as it makes it possible for RRR students to study off-campus and offers flexibility regarding when study takes

place through a largely asynchronous form of learning. Inability to commute or relocate for on-campus study and competing family, employment, and financial commitments are all thematic hurdles that are potentially mitigated by online learning. The final theme on the continuum recognises that some students prefer the online learning mode because of the flexibility it offers.

6.9 Bourdieu's Thinking Tools and RRR Online Learning

This section discusses the results of the thematic analysis in terms of the work of Bourdieu (1973, 1990). Bourdieu's work provides overarching theoretical tools that help frame our analysis of the barriers to RRR tertiary participation. The framework also provides insights into the place of online learning as a factor in levels of participation of RRR students and other disadvantaged groups.

Bourdieu (1984, 1986, 1990, 1991) theorised that families are sites of the transmission of various forms of capital which are then transformed into educational credentials and ultimately into employment and income. By using the economic metaphor of capital, Bourdieu's analysis situates education as a means to secure future opportunities by investing in one's future potential. In modern societies, education itself becomes a value and a form of capital because it is an investment which can be stored and ultimately cashed in for employment and income at a later date. As with all forms of capital, education has a variable exchange value depending on the market in which it is deployed. As such, education, which can be expensive and time consuming, can be traded for other forms of capital, particularly economic capital which is the view that frames contemporary state interest in increasing human capital (Becker, 1964).

Becker's (1964) human capital theory, however, assumes a voluntaristic, rational, calculating economic agent. In order for an individual to see the investment as worthwhile, and indeed something that is reasonably accessible and within the realm of possibility, they need to have faith that there will be a payoff. This assumes an understanding of what Bourdieu (1984) calls different 'fields' which are differentially available to different actors based on their social location. Furthermore, 'availability' is not understood by Bourdieu (1984, 1990) as formal access to the possibility of things like university study, but more importantly it is a question of an actor understanding him or herself as appropriate and legitimate participant in a particular field. For Bourdieu, social space is relational, and actors understand themselves, and the array of fields in that space, in terms of habitual distinctions which are taken-for-granted norms that shape activity and structure decision. For those families with intergenerational experience in the academic field for instance, university study seems normal and natural for their children. For families with little experience in the academic field beyond compulsory education, it is a different picture.

Education can therefore, be thought of as something that *requires*, as Bourdieu theorized, and *creates*, the human and social capital theorized by Becker (1964) and James Coleman (1966). Capital of different sorts are deployed and created in education in order to create future potential in contemporary economies and labour

markets. This allows us to understand some of the dynamics of how and why particularly located people tend to persist in education (the academic field) or leave before completing credentials and qualifications. However, the perception of education as capital, and understanding the potential that it has to be transformed into other things, is in itself shaped through differential and situated child rearing practices (Lareau, 2011; Vincent & Ball, 2006; Vincent & Maxwell, 2016) and the multiple forms of distinction, language, and material engagement which reflect social class location. In rural communities and in disadvantaged social locations, and social class groups, educationally-acquired knowledge is valued differently to other forms of knowledge which may be perceived as more 'practical' than schooled 'book learning'. For instance, Corbett (2020) has used Bourdieu's concept of habitus to illustrate how fishing families in a Canadian coastal community strategised educational and occupational trajectories for their children, sometimes engaging tertiary education and sometime rejecting its value to them. What these families considered useful and practical were constructed in terms of the deep lessons of ordinary, commonsense quotidian experience that Bourdieu refers to as habitus. Habitus is an embodied sense of how to operate in a particular yet dynamic and relational space and it is one of Bourdieu's (1973, 1990) feature contributions. Thus, for Bourdieu, navigating particular social situations, including educational participation, is both structurally constrained and yet creative and active.

The SEM model (Fig. 6.2) shows that the students in the regional university are older, less economically advantaged, and living in more remote locations than students in universities with traditional models of admission and course delivery. These factors illustrate how students at the regional university might be described as having more 'complex' lives and trajectories that do not fit the typical pattern of direct entry from school to some form of face-to-face study on a university campus. Our qualitative analysis examines how students in this university framed their own experience and the difficulties involved in persisting in their studies with limited support and relatively loose connections both to academic discourse, the habitus of campus life and to the multi-generational support networks which are normal in more traditional student pathways.

We find in this analysis the persistent presence of what Howard Becker (1960) called 'competing commitments'. To have a life where a simple and uncomplicated commitment only to higher education is a marker of privilege and an extended adolescent 'moratorium' (Erikson, 1968) in which the student focusses more or less exclusively on study. The RRR students we interviewed were committed across multiple, often competing, fields.

6.10 Family Expectations

Family has served in most sociological research as an effective proxy for social class. Children are born into the cultural geographies including the social class position inhabited by their parents. Families normally have strong influences on the aspirations

of their children. Those parents with limited education opportunity themselves often expect that their children will also tend to have limited educational expectations.¹ Here we see quite clearly the gap between desire for tertiary education and what Bourdieu (1990) called the, “coherent and convenient” choice of “just going to work” (p. 91). As one participant put it: “It’s [university] something I wanted to do, but ‘You don’t need to. Just go to work.’” (Olivia). The importance of necessity is also something that Bourdieu (1990) addressed extensively in his work, positing that an individual’s distance from necessity, or the compulsion to meet immediate need, is a social class distinction that marks out habitus and the relations between social classes. The middle classes have a greater distance from necessity and can afford the long moratorium and lost opportunity costs that tertiary education requires. This is demonstrated by the following extract:

My father finished school at 14 and took on an apprenticeship, so he was pretty much trade-based throughout his life, and he finished in the building area. My mum was a stay-at-home mum, did bookkeeping, and had her own businesses. She had her own catering business and things like that growing up. So they’ve definitely been self-starters, and I think there’s a really strong work ethic there. But, no, certainly, university education wasn’t necessarily on our planned expectation list. (Nadia)

Formal education beyond a basic level has been, in many RRR communities in Australia, the privilege of those who can afford to forego an early engagement in paid work. The competing commitments of home and family shape how higher education is perceived across generations. Again, there is a residue of this historical experience contained in the subtle and overt ways that people in RRR communities understand the value and practical accessibility of education and how they, often unconsciously, transmit to the upcoming generation what is and what is not important and/or possible, as well as who is and who is not in a position to operate in different fields. In terms of supporting online learning as well, the presence of computers and internet connections in the home have become the modern equivalent of the presence of books and the visibility of forms of reading and research that mimic, or at least support, academic work. And yet, there is considerable uptake of tertiary study even in the face of an array of challenges indicating that tertiary aspirations in RRR communities are strong.

6.11 First in Family

A closely related construct is that of first in the family. If there is no history of university study within a family, it takes a major initiative to stepping well outside

¹ We use the terms ‘expectations’ here quite deliberately rather than the more commonly applied notion of ‘aspirations.’ Because many rural, regional and remotely located families have come to anticipated limited educational opportunity based on their historical experience in formal education, this is not to say that they have lower aspirations (Corbett, 2016; Corbett & Forsey, 2017; Fleming & Grace, 2017; Zipin et al., 2015).

one's comfort zone. Corbett (2007) referred to this as a leap of faith on the part of families that have not historically made their livings through academic educational pathways. In RRR communities, school completion was not only unusual in many families, but it was also often perceived as time wasted. As Robbins (2012) put it, drawing on work in rural Nebraska, 'people like us don't go there.' Nevertheless, while many may not possess the material and symbolic resources to succeed in the academic field under current conditions, our research confirms the considerable body of evidence about RRR students which illustrates a desire to attend university.

My father worked on a farm, so he didn't go through college or anything and I'm the oldest child. So, I'm the first one at Uni. (Wendy)

None of my family kind of finished, like, some of them didn't finish high school. (Jen)

I'll be the first within my family from my parents and siblings. My parents didn't go. So, and also on my husband's side of the family either. I don't believe any of his siblings went to uni. I've got three brothers. None of them – they did college, and then that was it, and neither of my parents did uni. (Yolande)

For families with little or no experience in tertiary education, being the first to undertake university study can be daunting. Our analysis illustrates the additional challenges faced by those who are forging a path into the unknown world of higher education. For online RRR students, the leap of faith includes coming to terms with the questionable relevance, high opportunity costs, tuition debt, and a promised but uncertain payoff associated with tertiary education. Additionally challenging is the complexity of navigating both academic culture and language as well as the technological literacies of contemporary online learning environments, which are not always as intuitive and accessible as are ordinary interest-based web browsing or social networking.

6.12 Reluctance to Relocate and the Burden of Commuting

Combinations of the three main themes discussed so far can result in potential experiencing reluctance to move away from home. If relocation to study on-campus is the only option, those who wish to remain at home are unable to participate in tertiary education. The simple logistical problems as well as competing commitments associated with distance, commutability, and transportation infrastructure have created an embedded sense that residential relocation is a necessary part of tertiary and even upper secondary education in many rural and remote communities.

I think I wasn't ready to be away from home. (Andrea)

I didn't want to move away from home. I really wanted to stay in [Home location]. (Diane)

I live on the East Coast [of Tasmania], so I didn't really have much of an option really. (Gia)

While online offerings have created notional access, even this form of access requires both public and private communication infrastructure (i.e., broadband connection and a personal computer). These affordances are not universally available.

If students are reluctant to relocate, and on-campus study is the only option, commuting from home to study on-campus is an option for some. However, for many rural and regional locations, even when commuting is logistically possible, the distances are prohibitive.

I live on three acres outside a country town in Northern Victoria. (Erica)

I'm about an hour south of Hobart. I had considered it when starting, as to whether that was an option, that I could, you know, move or travel to Launceston. But it wasn't feasible at this point in my life. (Regan)

Conflicting commitments also come into the equation when assessing whether commuting is a viable option. Allowing for the pressures of employment and family reduces the time available for commuting.

I couldn't travel for that long each day, and have a family and work, and try and study and all the rest of it. So, I was looking at online options. (Tiffany)

If I had a preference, of course, I would probably prefer to go along and be in a classroom setting. But if that was the only option for me, then I wouldn't be doing teaching now. There's no way I could attend as a fulltime student, with the distance I live from the Uni campus. It would be onerous on me having to drive in, and I've got a family and all those kind of things. So absolutely, online learning breaks down all of that, so anyone can have access to university studies. (Teresa)

6.13 Complex Lives and Competing Family Commitments

Family commitments, especially caring for young children, commonly preclude on-campus study. For students with childcare responsibilities, it is typically not possible to spend lengthy periods in class while being needed at home.

One just turned seven, and a three-year-old. So, they're active. I have to study once they're in bed, so about 8.30 pm till about 2 am is my normal study time, about four nights a week. (Yolande)

If I didn't have a family I think being on-campus would probably, would work. But being able to do it all at home, it's just really convenient for me. (Gia)

Online study offers the flexibility of where study takes place. As it is largely asynchronous, there is also reasonable flexibility over when study takes place. The combination of flexibility over when and where to study permits both university work and caring for a family.

The fact that it was, obviously, available online made it convenient to me with two young girls. It meant, you know, that flexibility. (Kayla)

I love that there is online, especially for mums or people that have disabilities or anything that can't go into campus. I am working also. So it was the most convenient way for me to study and work with a family. (Yolande)

6.14 Competing Employment and Financial Commitments

In the current economic context, many students need to work to be able to cover the cost of living, and older, less economically advantaged students face greater challenges of this kind. Remoteness, in addition to the disconnection it typically implies for online students, often carries particular economic challenges not faced by urban and suburban students which include transportation, fuel, and groceries, for example, which often cost more in RRR areas than in metropolitan areas. Given the relative distance from the physical university, as well as the age profile, and socio-economic status of students in predominantly rural/regional universities, studying on-campus full-time and working (both for wages and in terms of care work) is at least problematic and often impossible.

I work fulltime, on shiftwork, so a regular schedule of attending classes didn't really work for me. (Sandra)

Semester 2 last year, I did online as well, because it fitted in really well with work and being at home. I work part-time. I work 23 hours a week. I found the online study really good to work around work and family. (Brittany)

Again, online study provides the flexibility to combine work and study. It also makes it possible to study, work, and maintain carer responsibilities. Online learning provides the opportunity for the student quoted below to manage what she calls her "lifestyle" which principally involves the responsibilities and demands of work, family life, and mobility.

Online study really was my only option to have that available to me. I wouldn't have had a way to be able to study with my lifestyle. So I work three days a week, I've got a two-year-old, and I'm also 31 weeks pregnant. So there really wouldn't have been another option for me. I wouldn't have been able to make it into the uni. So, it provided me with the means to be able to study and work towards something. (Francesca)

The reason that students have conflicting employment commitments is that they have financial commitments. Students need to work to provide for themselves, their spouses, and their families. Mature students tend to have more obligations and multiple commitments and responsibilities to balance and manage. The SEM model (Fig. 6.2) shows that mature age tends to be associated with regional and rural students and remote study.

The pay (from RRR employment) is the only reason I've been able to get this far. (Irina)

Now as a grown-up I've got a mortgage to pay, I've got a job to go to, and I want to study. So I have to schedule that time in. (Andrea)

The ability to prioritise and commit to tertiary education, which has been understood to be the neoliberal aspirational standard for university study, has always been a marker of privilege rather than a disposition (Corbett, 2016; Corbett & Forsey, 2017). Online education allows less advantaged and mature students with multiple responsibilities the ability to schedule in university study as a parallel priority that does not interfere with the financial support of a job. However, these competing

commitments and multiple challenges appear in our qualitative analysis to impact attrition.

6.15 Academic Expectations and RRR Backgrounds

Rural communities can have expectations that those brought up in the community will adopt a similar lifestyle. Those who are part of a farming community for instance may find it hard to visualise other forms of employment. In RRR communities particularly there are a relatively limited visible career options in what Corbett (2015) called the “line of sight” (p. 13). In Bourdieu’s (1990) terms, the habitus of life in a rural community is distinct from both life in school and in terms of the field of higher education.

Grew up on the farm. It’s a different kind of proud because they don’t understand the load, the actual what it takes to study and do the bookwork and everything. They’re a bit more of the farm type. It’s like “You’re not actually out there physically putting in the fence or anything, you’re just sitting there reading. How hard’s that?” Because they’ve not done that mental challenge. (Yolande)

What is interesting in the quote above is how this participant understands the relative physical challenge or difficulty of agricultural labour in comparison to academic work, which is considered to be common sense, and bookwork, which by contrast is considered more difficult. Of course, anyone who is unaccustomed to the process would experience considerable difficulty constructing a quality fence. Thus, the quote illustrates how knowledge is place-specific and related to the particular and pressing demands of a given family business. However, it also illustrates the ways in which different kinds of work and knowledge are relatively valued and evaluated in terms of challenge. Bourdieu’s (1991) idea of habitus both relates to the ordinariness of known social practices but also to the way that the habitus is also a form of position-taking and of seeing different social situations or what he called fields in relation to one another. Bourdieu’s sense of social space creates constructed relations between the ordinary business of life which is not perceived to be difficult, and that which is outside the realm of the habitual and the familiar. We found that many RRR participants perceived a separation between practical and useful knowledge and wasteful or frivolous engagement with academic knowledge that is not considered to be useful in the immediate context.

So, Northwest Coast. So, family farm and stuff, and university was seen as, like, a waste of time and for people that just want to throw money at nothing. So, it was kind of a battle to even get them to accept I was coming. TAFE (Technical and Further Education) was the be-all and end-all, and if you didn’t want to go to TAFE don’t bother, type of thing. (Jen)

Valued knowledge forms here are instrumental and vocationally relevant, mirroring common work and productive engagements of the immediately visible life in the community. Regional upbringings can lead to a mismatch with self-perceptions of individuals in terms of academic subjectivities. On one hand, the West Coast of

Tasmania has long been seen as an economically depressed area, resulting in limited opportunities and expectations which might suggest the perceived need for academic study and new career paths. But on the other hand, the departure of jobs in mining and forestry have left for many both an historical experience of stable and lucrative industrial labour and a related residue of disdain for formal education.

On my dad's side of the family they're pretty well educated. But on my mother's side of the family it was quite a different story. It's on the West Coast, so they're more of the welfare generation. My mum's side of the family and my dad's side of the family are quite different.
(Gina)

The point here is that in order to engage in tertiary education, either in person or online, individuals' personal psychological orientations, social supports, resources, and infrastructure need to align. If they do not, an individual may recognise the need for, and want, higher education, but lack the capacity to take advantage of the access that online learning can provide in RRR communities. Additionally, distance education can feel more remote and indeed, lonely, than on-campus study. Here we can see how the desire for education can stimulate enrolment, but for enrolment to turn into completion, more is required in the way of institutional and social support. This is well recognized for on-campus study for non-traditional students, but we would argue that the same holds true for online and hybrid modality students as well.

6.16 Beyond the Desire for Flexibility

Distance education, of which online learning is a form, was one of the elements of openness included in the open learning movement (Chap. 4; Kember, 1995; Lewis & Spencer, 1986). The ability to study remotely from a campus permitted flexibility over where study took place. The common asynchronous mode of program delivery permitted a degree of flexibility about when study took place.

The provision of online learning or distance education, therefore, has been an important factor in the expansion of the intake to higher education. As online offerings have proliferated, students who previously felt unable or unwilling to relocate to study on-campus could participate in tertiary education if the online study mode was available. There are, therefore, a range of reasons for choosing online study besides that of being a rural or regional student. Persistence and completion are probably more important as notional access.

Online learning does not just appeal to those who, for various reasons, are unable to study on-campus. There are also significant numbers of students who could manage on-campus study but who prefer the flexibility and convenience of online study.

Another unit last semester... moved into being completely online. And I was actually quite grateful for that. A lot of people complained, and they really went, like, "What the hell? I did undertake this subject because I wanted it to be face-to-face." I'm really happy, because it gave me so much flexibility with the subject. It's so full-on, that having that little bit of a leeway, having a choice of when I want to listen to this lecture, rather than being forced into going there to do it, and having this flexibility, for me was fantastic. (Sarah)

Online it can be more convenient. You can work around things, instead of on-campus stuff you go there at a set time. So, you can really work your way around all the stuff online.

There are also students who are better able to cope with the demands of study through the online mode. The degrees of flexibility in online study enable students to adapt study requirements and tasks to suit their lifestyle learning approaches.

And I've probably had more success doing the online than I have been doing in the face-to-face because I can do it in my own time. (Irina)

I don't know if it's because I'm older. This is my chosen method to do the study because it suits my lifestyle. It really suits me, so when I sit down, I just sit down to get it done. (Brittany)

It is well understood in the literature that mature and self-motivated learners have long benefitted from the flexibility of distance education (Bradley et al., 2017). In a sense, asynchronous online learning can provide an increasingly richer experience with ever more sophisticated, effective, and attractive online resources. The impact of Covid-19 which forced a great deal of educational effort online has undoubtedly enhanced instructor capacity, technological capacity, and innovation in higher education.

The findings of the present study show that students' participation in higher education involves both academic and social engagement. The application of Bourdieu's (1973, 1990) theory is particularly relevant to the social aspect in RRR students' university study. Situated in particular locations in social space, RRR students' decision-making is influenced by multiple competing factors. Bourdieu (1973, 1990) refers to four types of capital: economic, social, cultural, and symbolic, for people to navigate through their social worlds. Here economic refers to the financial resources and material wealth; social refers to the networks and social relationships; cultural refers to the skills and knowledge; and symbolic refers to value, power and privileges (Bourdieu, 1990). For Bourdieu, power is both material and linguistic, but language is critical in different social fields defines and differentiates how agents see themselves and think about planning and possibility/impossibility, as well as how they are seen by others who are quite similar to them. Human capital theory and other neoliberal aspirations discourses (Bok, 2010; Corbett, 2015; Corbett & Forsey, 2017; Zipin et al., 2015) abstract the choosing individual out of context, but it is our conclusion that this is inadequate and potentially amounts to a form of damaging "cruel optimism," as argued by Berlant (2011). Choice is always constrained and to imagine that it is not is to generate injustice. This study observed three of these types of capital (cultural, social, and economic) as central to understanding how both access and admission to tertiary education in regional universities is made possible by online education; but just as importantly, Bourdieu's thinking tools help us understand differential persistence of online students.

Cultural and social capital have a significant influence in RRR students' decisions to attend university, and to their study experience at the university. The students in this study were influenced by their families' expectations, and the complexity and competing commitments concerning their higher education attainment. Many had parents who saw university study as either unnecessary, or a waste of time.

These parents did not see education attainment as a mechanism for material wealth generation or stable careers (Bourdieu, 1990; Bourdieu & Passeron, 1990). For these students, attending university became a decision that took courage, and its value was not always a shared understanding within their cultural context and social networks. Spending scarce resources and years of time on questionable protracted education is well understood to be problematic for many families in the literature of the sociology of education and in rural and regional education. This non-scholastic understanding of what is and is not important for a successful life undoubtedly impacts RRR students' study life at the university.

Apart from ambivalence from families and within social networks, residential location is another challenge for RRR students who wish to attend university. The literature reveals a strong connection to the local community and a reluctance to relocate for many residents of rural and small communities (Webb et al., 2015). Corbett (2007) has also argued that rural families whose networks and employment experience are localised often have forms of economic and social wealth, such as machinery and the skill to operate it for the benefit of a kinship/friendship network, that are valuable locally, but which may not be transferrable to other geographic and occupational spaces. Thus, one's location an embedded network, and leaving that network can mean abandoning both responsibilities and supports. This was also apparent in the interviews conducted for this study, demonstrated by RRR students' reluctance to relocate and inability to commute. The availability of online learning appeared to be a factor that mediated these challenges. Many of the students were either unable or unwilling to relocate to a university campus, and having the online option enabled many to undertake university study.

While cultural and social capital were significant, economic capital did not appear to influence the RRR students' decision to attend university, but it was relevant to their choice of online learning mode and their study experiences. We note though that our work investigated community level SES rather than that of individuals and families. Still, the findings of this study confirm what was established in the literature, namely, that flexibility and convenience were the top reasons for students to choose to study online (Levitz, 2015). The students in this study needed the flexibility brought by online learning to cope with their multiple commitments: family, employment, or financial. This also confirms that online students tend to have multiple commitments during their university study, a phenomenon that is widely recognised and documented in the literature (Moore et al., 2003).

The students in this study seem to hold a unique identity and personal/family history shaped by both their RRR backgrounds as well as their role as online learners. These students come into higher education with a unique set of challenges which we argue can be explained using Bourdieu's (1973, 1990) theory of cultural, social, and economic capitals. These challenges require a high degree of flexibility in the course offering and delivery. This requirement led RRR students to choose online learning as a gateway to higher education attainment. Once they have commenced their study, their experiences in online learning also start to shape their identity as RRR students, especially with respect to cultural and social capital. Online learning seemed to modify students' social networks, mindset, and emerging student identity.

Indeed, we understand the complex intersection of abilities and resources required to engage in online learning as a crucial form of capital in itself. The individual investments of time and resources required to be prepared to engage in online tertiary study is a form of unequally distributed educational capital. Additionally, the social investments required for online access, such as broadband internet availability, are also part of the core requirements for access.

Because the ability to successfully navigate challenges of the online world, in addition to the established challenges of engaging with tertiary education, can be challenging for RRR students, a greater degree of support will often be required for success. When it comes to the engagement of these students, institutional support should be carefully considered, even at the time of admission, so that these students can be supported from the beginning of their courses. Extensive research has been done on how to support students from RRR backgrounds (Kilpatrick et al., 2019) and for online students (Britto & Rush, 2013) as two separate cohorts. However, studies conducted in relation to online students from RRR areas, as a unique group, remain limited, in both large scope government reports (Productivity Commission, 2019; Wellings et al., 2019), as well as smaller scope empirical studies. This study is of value in addressing this gap.

6.17 Conclusion

This study has pointed to the relationship between students from rural and regional communities (which we have labelled: rural origins) and their experience of remote study. There is extensive literature on supports for students from rural and regional communities who relocate to study face-to-face on-campus (Commonwealth of Australia, 2019; Productivity Commission, 2019; Wellings et al., 2019). By contrast, this study has shown that the availability of remote study by online learning boosts the recruitment of rural and regional students, as they no longer have to relocate, which many are unable or unwilling to do.

The three key elements of open learning combined to enable the enrolment of rural and regional students. Freedom over where to study is provided by online learning, which obviates the need for relocation. Degrees of freedom over when to study are provided by the asynchronous nature of online learning. The provision of part-time study also boosts flexibility by enabling students to select a load compatible with other commitments. The combination of flexibility over when and where study takes place allows students to fulfil other commitments to families and employment, while also completing study requirements. The third element of open learning comprises degrees of openness in admissions. This is also a boost to the recruitment of rural and regional students who lack formal entry qualifications from secondary schooling.

As well as boosting the enrolment of rural and regional students, these elements of open learning also boost enrolment of those in other disadvantage groups and those with the multiple associated challenges which are related to the diverse student body which follows from the adoption of open learning. The discussion of the model

highlighted age, as it showed that rural, regional, and remote students tend to be somewhat older than the norm. This finding can be extrapolated towards other factors which could not be included in the quantitative model as they were not recorded in the student record system. Mature students are more likely to have family ties, which can mean carer responsibilities and the need to be in employment to provide for the family. Mature students are less likely to be able to relocate for on-campus study and less able to commit to an on-campus class timetable. These multiple associated challenges act together to function as competing commitments which need to be juggled to fit in alongside such study requirements.

Despite these challenges, the multivariate modelling showed that, if appropriate statistical controls are performed, rural, regional, and remote students are no more likely to drop out or failed to complete their course than those from urban or city regional categories. The apparent relationship from single variable studies becomes partialled out into other variables if appropriate multivariate statistics are employed.

However, the qualitative segments of our work illustrate how RRR origins can act as a barrier to tertiary participation. Many residents of rural communities are well aware of the barriers articulated by our research participants. This can mean that some RRR families have little realistic expectation of their children participating in university study. If parents have no history of tertiary education, it often takes significant family commitment to an unknown career path as well as leap of faith for youth to be the first in the family. Yet, public pro-education discourses, university recruitment policy aimed at attracting non-traditional, socioculturally disadvantaged, and otherwise marginalised and disabled students, and the way that online education offers the possibility of aspirations for tertiary education for RRR students, all converge to create a new landscape of formal access and opportunity. Whether this formal access and opportunity translates into successful course completion for online RRR students is another question, though, which was outside the scope of this research.

The combination of barriers to RRR participation often results in a reluctance to relocate to study on-campus. Living in rural or regional locations commonly means that students are located too remotely to commute to a campus. Comparison of the demographic characteristics of four universities has clearly shown that the provision of online learning and offering part-time study has a marked impact on the participation levels of RRR students and other disadvantaged groups. The flexibility over where and when study takes place removes major barriers to enrolment. These two flexibilities of online learning also assist students to cope with conflicting demands of family, employment, and financial commitments experienced by many RRR and other non-traditional entrants. Online learning also attracts significant numbers of students who could study on-campus, but prefer the flexibility and convenience of the online mode.

We drew on the work of Bourdieu to provide an overarching theoretical framework to consider the phenomenon of higher rates of participation and lower rates of persistence made possible by online learning for RRR students illustrating the complexity of the challenges they face. The study findings revealed the influences of cultural, social, and economic capital (Bourdieu, 1973, 1990) as interwoven factors

that impact on RRR students' higher education participation. The complex sociological interrelationships between economic, cultural, and social capital were identified as influential factors to RRR students' decision-making to enter university, as well as their experiences during university study. All the three types of capital appear to be relevant in explaining the RRR students' choice to study online. The findings of this study offer insights to inform future support strategies and programs for RRR students in university online and blended courses.

The significant conclusion is, therefore, that universities should be encouraged to recruit students from the recognised disadvantaged categories of rural, regional, remote and low SES students, and, if proper statistical techniques are employed, their performances are on par with those from urban regions or higher SES categories. The ways to facilitate their recruitment are to offer degrees of the three key elements of open learning: freedom over where study takes place through online learning; degrees of flexibility over when study takes place through asynchronous learning and part-time study; and open access admission policies. Nevertheless, simple provision of flexible online access can also prove problematic to non-traditional RRR higher education students, many of whom require supports that account for different complex learning, working and living situations, and competing commitments. We argue that a sociological analysis of the complexities of access, formal access are required to inform robust attraction and retention of rural and remote students in higher education. How tertiary institutions address the complex RRR assemblages of economic, cultural, and social capital in addition to providing simple access to online programming will undoubtedly have considerable influence on attrition rates for online students in the future.

References

- Arnett, J. J. (2014). *Emerging adulthood: The winding road from the late teens through the twenties*. Oxford University Press.
- Bawa, P. (2016). Retention in online courses: Exploring issues and solutions—A literature review. *SAGE Open*, 6(1), <https://doi.org/10.1177/2158244015621777>
- Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. University of Chicago Press.
- Becker, H. S. (1960). Notes on the concept of commitment. *American Journal of Sociology*, 66(1), 32–40. <https://doi.org/10.1086/222820>
- Berlant, L. (2011). *Cruel Optimism*. Duke Univ Press.
- Bok, J. (2010). The capacity to aspire to higher education: 'It's like making them do a play without a script.' *Critical Studies in Education*, 51(2), 163–178. <https://doi.org/10.1080/17508481003731042>
- Bourdieu, P. (1973). *Cultural reproduction and social reproduction*. Tavistock.
- Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste*. Richard Nice (trans.). Harvard University Press.
- Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). Greenwood.
- Bourdieu, P. (1990). *The logic of practice*. Stanford University Press.
- Bourdieu, P. (1991). *Language and symbolic power*. Harvard University Press.

- Bourdieu, P., & Passeron, J.-C. (1990). *Reproduction in education, society and culture*. Sage.
- Bradley, R. L., Browne, B. L., & Kelley, H. M. (2017). Examining the influence of self-efficacy and self-regulation in online learning. *College Student Journal*, 51(4), 518–530.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *The Qualitative Report*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Britto, M., & Rush, S. (2013). Developing and implementing comprehensive student support services for online students. *Journal of Asynchronous Learning Networks*, 17(1), 29–42. <https://eric.ed.gov/?id=EJ1011371>
- Chou, C. P., Bentler, P. M., & Satorra, A. (1991). Scaled test statistics and robust standard errors for non-normal data in covariance structure analysis: A Monte Carlo study. *British Journal of Mathematical and Statistical Psychology*, 44(2), 347–357.
- Coleman, J. S. (1966). *Equality of educational opportunity*. <http://eric.ed.gov/?id=ED012275>
- Corbett, M. (2007). Travels in space and place: Identity and rural schooling. *Canadian Journal of Education*, 30(3), 771–792. <https://eric.ed.gov/?id=EJ780809>
- Corbett, M. (2015). Rural education: Some sociological provocations for the field. *Australian and International Journal of Rural Education*, 25(3), 9–25. <https://doi.org/10.47381/aijre.v25i3.100>
- Corbett, M. (2016). Rural futures: Development, aspirations, mobilities, place, and education. *Peabody Journal of Education*, 91(2), 270–282. <https://doi.org/10.1080/0161956X.2016.1151750>
- Corbett, M. (2020). Place-based education: A critical appraisal from a rural perspective. In M. Corbett & D. Gereluk (Eds.), *Rural teacher education* (pp. 279–298). Springer.
- Corbett, M., & Forsey, M. (2017). Rural youth out-migration and education: Challenges to aspirations discourse in mobile modernity. *Discourse: Studies in the Cultural Politics of Education*, 38(3), 429–444. <https://doi.org/10.1080/01596306.2017.1308456>
- Department of Education, Employment and Training (DEET). (1990). *A fair chance for all*. AGPS.
- Department of Education, Skills and Employment. (2020). *Selected higher education statistics—2019 student data*. <https://www.dese.gov.au/higher-education-statistics/student-data/selected-higher-education-statistics-2019-student-data>
- Dorey, P. (2015). ‘Well, Harold Insists on Having It!’—The Political Struggle to Establish The Open University, 1965–67. *Contemporary British History*, 29(2), 241–272.
- Engstrom, C., & Tinto, V. (2008). Learning better together: The impact of learning communities on the persistence of low-income students. *Opportunity Matters: A Journal of Research Informing Educational Opportunity Practice and Programs*, 1(1), 5–21.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. Norton & Company.
- Fleming, M. J., & Grace, D. M. (2017). Beyond aspirations: Addressing the unique barriers faced by rural Australian students contemplating university. *Journal of Further and Higher Education*, 41(3), 351–363. <https://doi.org/10.1080/0309877X.2015.1100718>
- Hesse-Biber, S., & Leavy, P. (2011). *The practice of qualitative research* (2nd ed.). Sage.
- Holder, B. (2007). An investigation of hope, academics, environment, and motivation as predictors of persistence in higher education online programs. *The Internet and Higher Education*, 10(4), 245–260.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1–55.
- Kember, D. (1995). *Open learning courses for adults: A model of student progress*. Educational Technology Publications.
- Kember, D., Hicks, D., Leung, D.Y.P., & Prosser, M. (under review). The traditional to contemporary spectrum of models of higher education for admission and course delivery.
- Kember, D., Leung, D., & Prosser, M. (2019). Has the open door become a revolving door? The impact on attrition of moving from elite to mass higher education. *Studies in Higher Education*, 46(2), 258–269. <https://doi.org/10.1080/03075079.2019.1629411>
- Kennedy, D. (2016). Is it any clearer? Generic qualitative inquiry and the VSAIEEDC model of data analysis. *The Qualitative Report*, 21(8), 1369–1374.

- Kilpatrick, S., Katersky Barnes, R., Heath, J., Lovat, A., Kong, W.-C., Flittner, N., & Avitaia, S. (2019). Disruptions and bridges in rural Australia: Higher education aspiration to expectation of participation. *Higher Education Research & Development*, 38(3), 550–564. <https://doi.org/10.1080/07294360.2018.1556619>
- Lareau, A. (2011). *Unequal childhoods: Class, race, and family Life*. University of California Press.
- Levitz, R. N. (2015). *16 national online learners satisfaction and priorities report*. Ruffalo Noel Levitz.
- Levy, Y. (2007). Comparing dropouts and persistence in e-learning courses. *Computers and Education*, 48(2), 185–204. <https://doi.org/10.1016/j.compedu.2004.12.004>
- Lewis, R., & Spencer, D. (1986). *What is open learning?* Council for Educational Technology.
- Moore, K., Bartkovich, J., Fetzner, M., & Ison, S. (2003). Success in cyberspace: Student retention in online courses. *Journal of Applied Research in the Community College*, 10(2), 107–118. <https://www.learntechlib.org/p/104016/>
- Morgan, D. (1998). Practical strategies for combining qualitative and quantitative methods: Applications to health research. *Qualitative Health Research*, 8(3), 362–376. <https://doi.org/10.1177/104973239800800307>
- Norton, A., & Cherastidham, I. (2018). *Mapping Australian higher education 2018*. Grattan Institute.
- Pascarella, E. T., & Terenzini, P. T. (1980). Predicting freshman persistence and voluntary dropout decisions from a theoretical model. *The Journal of Higher Education*, 51(1), 60–75.
- Percy, W., Kostere, K., & Kostere, S. (2015). Generic qualitative research in psychology. *The Qualitative Report*, 20(2), 76–85. <https://doi.org/10.46743/2160-3715/2015.2097>
- Productivity Commission. (2019). *The demand driven university system: A mixed report card*. Research Paper, Canberra: Australian Government.
- Rawolle, S., & Lingard, B. (2013). Bourdieu and educational research: Thinking tools, relational thinking, beyond epistemological innocence. In M. Murphy (Ed.), *Social theory and education research: Understanding Foucault, Habermas, Bourdieu and Derrida* (pp. 129–149). Routledge.
- Robbins, B. (2012). “People like us don’t go there”: Local culture and college aspirations in rural Nebraska. *Yale Journal of Sociology*, 12, 98–129.
- StataCorp. (2017). *Stata statistical software: Release 15*. StataCorpLLC.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89–125. <https://doi.org/10.3102/00346543045001089>
- Tinto, V. (1987). *Leaving college*. University of Chicago Press.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). University of Chicago Press.
- Tinto, V. (2012). Enhancing student success: Taking the classroom success seriously. *The International Journal of the First Year in Higher Education*, 3(1), 1–8.
- Tinto, V. (2015). Through the eyes of students. *Journal of College Student Retention: Research, Theory & Practice*. 1521025115621917.
- Trow, M. (1973). *Problems in the transition from elite to mass higher education*. OECD.
- Trow, M. (2005). Reflections on the transition from elite to mass to universal access: Forms and phases of higher education in modern societies since WWII. In P. Altbach (Ed), *International handbook of higher education*. Kluwer.
- Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & Health Sciences*, 15(3), 398–405. <https://doi.org/10.1111/nhs.12048>
- Vincent, C., & Ball, S. J. (2006). *Childcare, choice and class practices: Middle class parents and their children*. Taylor & Francis.
- Vincent, C., & Maxwell, C. (2016). Parenting priorities and pressures: Furthering understanding of ‘concerted cultivation.’ *Discourse: Studies in the Cultural Politics of Education*, 37(2), 269–281. <https://doi.org/10.1080/01596306.2015.1014880>
- Webb, S., Black, R., Morton, R., Plowright, S., & Roy, R. (2015). *Geographical and place dimensions of post-school participation in education and work*. Research Report: ERIC.

- Wellings, P., Black, R., Craven, G., Freshwater, D., & Harding, S. (2019). *Performance-based funding for the Commonwealth Grant Scheme*. Retrieved from Canberra: https://docs.education.gov.au/system/files/doc/other/ed19-0134_-_he-_performance-based_funding_review_acc.pdf
- Yin, R. K. (2016). *Qualitative research from start to finish*. Guilford Press.
- Zipin, L., Sellar, S., Brennan, M., & Gale, T. (2015). Educating for futures in marginalized regions: A sociological framework for rethinking and researching aspirations. *Educational Philosophy and Theory*, 47(3), 227–246. <https://doi.org/10.1080/00131857.2013.839376>

Chapter 7

Coping Mechanisms Adopted by the Diverse Student Body



David Kember and Allison Trimble

Abstract Attrition rates from online study are significantly higher than for on-campus study. Besides the difficulties associated with the study mode, most online students experience multiple associated challenges, which arise because of personal circumstances or past educational background. This chapter reports part of the analysis of interviews to examine how the students coped with online study and the multiple associated challenges. The outcome was an analytical framework with three coping mechanisms: sacrifice, support and negotiation of arrangements. The coping mechanisms operated in three domains: the self, family and work. The framework is presented as a coping mechanism by domain grid. Examples, from the interviews, are given for the cells within the grid.

7.1 Difficulties of Online Study

A significant proportion of online students fail to cope with studying online. There is abundant evidence that attrition rates for online students are higher than that for on-campus study (Bawa, 2016; Carr, 2000; HESP, 2017; Kember et al., 2019; Levy, 2007; Tello, 2007).

The comparison is compounded because students commonly elect to study online due to a range of factors which can themselves influence study outcomes. The additional factors arise from the personal circumstances of the students which influenced them to choose the online mode. In Chap. 5 these additional factors have been labelled *multiple associated challenges acting in concert*. The student characteristics associated with these multiple associated challenges commonly include some combination of the following factors. The list is by no means exhaustive.

- Students admitted through alternative entry modes, other than secondary school results.

D. Kember (✉)
Gravelly Beach, Australia

A. Trimble
Launceston, Australia

- Those who study part-time.
- Students classified as low SES.
- Those who live in regional and rural locations.
- Mature students.
- Students in full-time or part-time employment, many of whom need the income to support themselves and their families.
- Those with carer and family responsibilities.
- Students with one or both parents who were not educated at the tertiary level.
- Those who were brought up in areas with low tertiary participation rates and educated in schools with limited traditions of proceeding to higher education.

7.2 Coping Mechanisms and Support

While significant proportions of online students dropout, many do succeed in completing their courses. This Chapter argues that those who succeed do so because they have adopted mechanisms to cope with the issues associated with online study. The coping mechanisms are also necessary for overcoming the multiple associated challenges acting in concert faced by the students.

Facilitating student success has commonly been envisaged in terms of student support and programs to promote student engagement. However, Chaps. 8, 11 and 12 present evidence that online students have not found centralized support services to provide effective support. Instead, more personalized, individual support by the teachers of online subjects was perceived as very helpful and important as explained in Chaps. 13, 14 and 16. Other online students were also seen as providing support, as reported in Chap. 15.

A surprising result from the present study was the high incidence of interviewees reporting forms of external support from spouses, families and workmates. The data also contained a great deal of discussion in relation to how the participants dealt with the multiple associated challenges acting in concert that they faced. Analysis suggested that it would be fruitful to view the data from the perspective of how the online students coped with online learning in terms of the external environment which they inhabited. The focus of the study then became one of examining the coping mechanisms or strategies adopted by online students.

The concept of coping mechanisms for part-time students had been introduced in a series of qualitative studies (Kember, 1999; Kember et al., 2005; Yum et al., 2005). The concept was also addressed in a quantitative study of the relationship between coping mechanisms and sense of belonging (Kember & Leung, 2004). The Yum et al. (2005) study proposed a model featuring three coping mechanisms (sacrifice, support and negotiation of arrangements) within four domains (self, work, family and social life). This appeared to offer a useful starting point for a deeper examination of the online student data in this study.

It was clear, though, that there would be extra dimensions for students studying online. The three previous studies of coping mechanisms had gathered most or all

of their data from part-time students in Hong Kong. Typical part-time study in Hong Kong consisted of one or two evening classes per week, taught face-to-face on university campuses. The majority of participants in the present study were also part-time students but were learning online. They studied at a distance from the university and, typically, did not visit the campus at all. In most instances the only contact they would have with fellow students and teachers would be virtually.

Literature searches were conducted to see if the concept of coping mechanisms had been more widely drawn upon. Searches were undertaken using ERIC, a well-respected educational database, and Google Scholar, to examine a wider literature network. Searches were conducted on the terms ‘coping mechanisms/strategies’ in conjunction with ‘online learning’. The search results included the series of studies of part-time students discussed above. The remainder of the results examined psychological and physical stress experienced by particular groups of students or professionals, which topics were peripheral to the present investigation. As a consequence, the decision was made to treat the research as a largely empirical inductive study drawing some guidance from the studies of coping mechanisms of part-time students, rather than one following a framework derived from the literature.

7.3 Method

This study drew on the qualitative data which were collected through 41 semi-structured interviews with students from the regional Australian university which had adopted the contemporary model of admission and course delivery (see Chap. 1).

A combination of inductive coding and the deductive use of the Yum et al. (2005) framework, led to the development of an analytical framework for coping mechanisms of online students, which is shown in Table 7.1.

It should be noted that the analytical framework derived for online students differs from the Yum et al. (2005) one for part-time students in that the ‘social life’ domain has been removed. This domain was not commonly reported in the interviews, probably because studying while coping with the multiple associated challenges restricted the students’ social lives. Alternatively, as study took place in the home, socialization was with family members and friends, so students did not perceive social lives as relevant to study issues, so did not report them in interviews. There is a separate discussion of social bonding and peer student support arising out of online interactions in Chap. 17. There were also significant differences in the interpretation of

Table 7.1 Analytical framework for coping mechanisms of online students

Mechanism	Self	Family	Work
Sacrifice			
Support			
Negotiation of arrangements			

elements of the framework, arising because of the nature of online study. These will be discussed as the analysis is detailed in the following sections.

The analytical framework was then used to adapt the original coding of the study data to the categories of the grid. The coding was then checked to see if there were any additional responses which were consistent with cells in the grid. An NVivo sort of the relevant data was then performed to populate the cells in the analytical framework grid.

7.4 Elements of the Coping Mechanisms Framework

Results of the data analysis are presented below. This section of the chapter is ordered according to the cells of the analytical framework as introduced in the previous section, following the three domains: self, family and work. Quotations from the interviews are provided in each sub-section to illustrate and substantiate the points made. Relevant literature is also introduced at appropriate points in the discussion of results.

7.5 Coping Mechanisms—Self Domain

7.5.1 *Self/Sacrifice*

The self/sacrifice element involved the sacrifice of social lives. The participants reflected they would not have enough time to complete required study tasks if they had a lively social life. Some students enter their courses without a clear understanding of the amount of time required and the complexity that comes with the flexibility of online learning. This is demonstrated through the following quote:

I really wasn't sure what I was in for. I understood what the workload would be, but reality of that it is there's no spare time. (Alexandra)

7.5.2 *Self/Support*

7.5.2.1 Self-Motivation

The self/support element was interpreted as including the vital motivation that students need to work their way through a degree by online study. In addition to the motivation any student needs to complete the study tasks required to complete a degree, the participants in this study also had to be motivated to cope with the multiple associated challenges acting in concert (Chap. 5). Significant proportions of the

students also had to deal with backgrounds in which there were limited expectations of them participating in tertiary education.

I don't know if anyone really had any expectations on me to go to uni. But I think that I did myself. I thought that I always would, but it's just taken me quite a while to get there after having a family and that sort of stuff that I've been putting off for a while. But I always wanted to do it. (Gia)

7.5.2.2 Preparation and Skills

Once the commitment had been made to enrol for a degree by online learning, some committed themselves to preparation they considered necessary, as demonstrated in the quotation below. It should, however, be noted that few of the students in this study participated in preparatory programs such as orientation sessions. This is partially because the existing preparatory programs were mainly targeted at on-campus students, and the online versions are not comparable or received well by online students.

I've always had this idea that I'd go back to Uni, so I'd been preparing myself over the years and I did a tertiary exam type thing over a number of days and I got the score and all that kind of thing. ... I did certain units and then that went towards my score. So that was what I used for my requirements to come back as a mature aged student. (Olivia)

7.5.2.3 Self/Negotiation

The self/negotiation element was a very important one. There were multiple components linked by the consistent theme of making time available for study as well as satisfying other commitments. Online students share a similar level of academic workloads and stress as their on-campus student peers (Phillips et al., 2016; White-lock et al., 2015). At the same time, they require a higher level of self-regulation skills, in order to maintain progress in the more flexible online study schedule (Al Fadda, 2019; Kintu et al., 2017).

7.5.2.4 Organising Time for Study

To succeed with online study, it is necessary for students to set aside the time needed to complete study tasks. On-campus students have the discipline of a timetable for their classes which regulates a major part of their study schedule. Online learning, though, is largely asynchronous; there are no class timetables. Participants reported that they needed to set their own schedule, consistent with deadlines for completing tasks and assignments, and then, more importantly, stick to it.

Keeping onto it every week. It's very easy when you haven't got real people in your face to lose engagement, if you don't look at the materials really regularly. So I set up a schedule

where I check, for instance, emails and announcements every second day for all units and discussion boards as well, so that you're just keeping yourself there, even if you don't necessarily respond, but you're reading through. And just to keep that engagement. (Regan)

In the absence of a set timetable, advance planning becomes more important. Participants noted that this involved mapping out the multiple elements required to complete their study, including readings, activities, and assessment due dates.

I go through and print off all of the [unit] outlines. And I've set up my own timetable of when all the assignments are due and how much they're worth and that weekly calendar, so I can see them side by side. I print off the weekly thing straight out of the unit outline. The, you know, what the readings are for the week, and activities that are straight out of the unit outline. And then that's what I work from. So, each week I try and tick off all of those things, bearing in mind that on another sheet, I've got those assignment things listed. (Kayla)

The asynchronous nature of online study gives students the flexibility to plan their own timetable for study. However, this can be a double-edged sword. Those who lack the discipline to self-negotiate study schedules and stick to them can soon fall behind in their studies. This is consistent with relevant literature which recognises the critical role of self-regulation in online and blended-learning students' success (Al Fadda, 2019; Kintu et al., 2017).

I enjoyed being able to do things at my own pace, and I liked how unit outlines specified everything in the course, so if I wanted to get ahead in one week I could, so I could prepare for my assignments, and if I knew I had a busy week coming up, [the LMS system] was really helpful for that. Yes, I really enjoyed being able to work at my own pace, yes. (Diane)

7.5.2.5 Fitting in with Life

The most prominent life-related aspect of self-negotiation to set aside time for study, related to the need to fit study around family and childcare responsibilities. This reflects the characteristics of the online student cohort, which has the majority of the part-time and mature-age student enrolments (Norton et al., 2018). Participants had to set timeslots aside for study at times when children did not need to be cared for.

I managed to just study when my boys were at school. So, I was just studying sort of between nine and three, five days a week. So, I had quite a lot of time to complete my units. So, it worked out really well. Although this semester the units are a little bit more content heavy, so I've found I've had to do a bit of reading at night time and on the weekends and things like that to get it all done. (Gia)

There were other aspects of life that study needed to be fitted around. The quotation below is from a student who needed a study timetable which also permitted time for sport and part-time jobs.

I think the biggest challenge with [going to university] is just managing, like, your schooling and your sport – I play a bit of sport outside of Uni and also I go to work, I have a part time job as well, so just managing all that and keeping on top of everything is probably the most challenging thing. (William)

7.5.2.6 Online Learning

Freedom of time and place. Online learning is a form of open learning. As discussed in Chap. 4, open learning is characterised by three key forms of openness: open entry, freedom to choose where to study, and reasonable degrees of freedom over when to study (Kember, 1995; Lewis & Spencer, 1986; Thorpe & Grugeon, 1987). Two of these three key degrees of openness were important to the participants in negotiating study timetables which also catered for their other commitments. Looking after children was again the main competing commitment. The flexibility of online study made it possible for students to fit study around other commitments. The requirements of on-campus study to travel to campus to attend classes at fixed times was seen by participants as precluding them from fulfilling their other commitments.

I think it was the right time, for me this is the right time to do it because my children are not that young. One's in primary school year 4, and my son just started High School, so they are quite independent in many ways. And this online works better for me because I can still be a mum and I can do my work and I can still go to work ... It's tiring, but it is good. (Jasmine)

Asynchronous study. The study mode status of the participants as online students was important to their ability to self-negotiate study timetables. Online learning is largely asynchronous. Accordingly, there are no class timetables which must be adhered to. This made it possible for the online students to plan their study around their other commitments.

Online can be more convenient. You can work around things instead of, obviously on campus stuff you go there at a set time and then you come back. So you can really work your way around all the stuff online. (Vincent)

I found the online study really good to work around work and family. ... This is my chosen method to do the study because it suits my lifestyle. It really suits me. So when I sit down, I just sit down to get it done. (Brittany)

7.6 Coping Mechanisms—Family Domain

7.6.1 Family/Sacrifice

The participants reported that their study necessitated some sacrifice of quality family time. However, it is important to point out, as has been noted in previous sections, that carers did not compromise on looking after children. Rather, they organised their study schedules for times when they did not need to look after their children.

I'm juggling a lot of different things, including a two-year-old. I can't just sit at a computer and study whilst she's requiring my attention. And I have to be really organized and I have to set myself specific times to study. (Francesca)

7.6.2 *Family/Support*

7.6.2.1 **Household Responsibilities**

An important theme within the family/support element was the contribution from other members of the family who supported the student by taking responsibility for household chores. Support from the family and significant others is identified as an indispensable environmental factor for online students' success (Boyd, 2004). In this current study, it was generally the spouse of the student who took at least some responsibility for household tasks.

My husband's been helping me do lots of household chores, so I've got more time to study. So, he's been really supportive and that's been really good. I don't have to wash up anymore. So, it's less work for me. (Gia)

In the quotation below, the student identifies her children, as well as her partner, as providing support for her study.

My husband has been very supportive. We've actually been together for about 15, 16 years, so he's learnt to cook now. Yeah, he's very supportive, and my children are actually 10 and six. So they're a little bit older now, so they understand that mummy's doing school as well. So yeah, we all support each other. (Patricia)

Participants also discussed support being provided by extended family members.

We also live literally next door to my aunty and uncle, and they are always available to watch the boys if I need. So I do have a very close-knit community of family that support me. (India)

7.6.2.2 **Encouragement**

Equally important, providing encouragement was a central part of the family/support element. The first aspect of encouragement was encouraging the student to enrol. Encouragement to enrol was important as significant proportions of the students came from families with limited histories of tertiary participation or from areas, such as rural ones, which placed limited value on education. There were also students who had not been high achievers at school.

He [husband] really pushed me into being able to start studying again, and my family, my mum and stepdad and my in-laws, they're all in Hobart as well, so they're supportive. (Brittany)

Both family and my partner were very supportive. I get all my support and motivation from family and people who are very close to me. (Gina)

Encouragement was also important to keep students going through the long time needed to complete a degree. Coping with study tasks in a home environment, while at the same time dealing with multiple associated challenges acting in concert, can be a draining experience. Family encouragement can provide important motivation to persist with study.

At times I thought “Oh, I’m just going to quit and I might get a job as a teacher’s aide or something like that.” And my husband was like “No, you can’t quit. Just keep going.” So yeah, he was really supportive. (Gia)

7.6.3 Family/Negotiation

An instance of the family/negotiation element was negotiation between partners in which one ceased full-time work to study, while the other continued working to provide financial support to the pair.

We’ve been together for quite a long now – it’s obviously, you accept that it’s a give and take, and consider the future together. So we thought it through, and I was fully supported. So she’s working full-time, and I’m able to take this on and study. For as long as I’m in my academic pursuit, my partner will support me her way. And once I’m done and in my own career, then she can relax, and really sit back, and maybe work a day or two if she wants to. (Sarah)

7.7 Coping Mechanisms—Work Domain

7.7.1 Work/Sacrifice

7.7.1.1 Study Over Work

The most common instance of the work/sacrifice element of the coping mechanism framework was that of students reducing time at work in order to be able to cope with their study load.

I work four days a week at the school. I was actually considering next year reducing it to a seven day fortnight rather than an eight, purely so I can manage my study load a bit better. I get through it and, like, I finish always feeling just a little bit stressed. (Teresa)

There were also instances of jobs being given up altogether to make study possible.

I took on a really stressful job and I didn’t realise it would be really stressful. I am out of that job now, but had I continued in that role, there’s no way I would have been able to continue with my university study. (Andrea)

7.7.1.2 Work Over Study

Other participants took the opposite approach and tailored the number of subjects they took to fit in with the demands of a full-time job. The flexibility of part-time study was an important provision of online enrolment.

If you’re working full-time, and you think that you can do four subjects and work online, immediately shave one of those subjects off. (Harry)

7.7.2 *Work/Support*

7.7.2.1 **Work Colleagues Providing Support**

The work/support element was characterised by students receiving advice and help with study tasks from work colleagues. This form of support was common for professional programs in which the student already had a role related to the profession. Students could draw on both the academic expertise and professional experience of their workmates.

I have got a really good strong network amongst my work practice. But I'm also very fortunate, I have some extremely well educated and well experienced teachers that I work with. And all I have to do is just ask, and I get so much help around me. (Tiffany)

7.7.2.2 **Work Colleagues as Study Mates**

Apart from general support from colleagues, there was also an instance reported where a work colleague enrolled in the same degree and chose the same study path in order to provide mutual support.

I have a colleague at work who is enrolled in the same bachelor degree. We are trying as much as possible to enrol in the same units. That way, we can help one another with the things that are not clear to us. We remind each other about what do we have to do. Basically, working together all the way through the semester. Which is a great strategy to use, very useful. At least it helped me personally. (Ryan)

7.8 **Conclusion**

There have been concerns about the ability of students enrolled in the online study mode to succeed in completing their degree. Attrition rates for online study have been found to be higher than that for on-campus study (Bawa, 2016; Carr, 2000; HESP, 2017; Kember et al., 2019; Levy, 2007; Tello, 2007). Causes of attrition cannot be solely attributed to the mode of study. Kember et al. (2019) used structural equation modelling to show that retention and success of online students was a complex multivariate phenomenon. Students who choose to enrol in online study may also face a wide range of challenges in their personal circumstances which also impact on their learning. In this article we have introduced this concept as multiple associated challenges acting in concert. Online students not only have to cope with the issues relating to the mode of study, but also the multiple associated challenges (discussed in detail in Chap. 5).

This chapter has presented an analytical framework for coping mechanisms which may be adopted by online students to deal with these challenges. The framework included three coping mechanisms: sacrifice, support, and negotiation of arrangements. These mechanisms operated in three domains: the self, family and work. The

Table 7.2 The coping mechanisms framework showing cells with functioning mechanisms

Mechanism	Self	Family	Work
Sacrifice	<ul style="list-style-type: none"> • Sacrificing social interaction 	<ul style="list-style-type: none"> • Quality family time 	<ul style="list-style-type: none"> • Work over study • Study over work
Support	<ul style="list-style-type: none"> • Preparation and skills • Self-motivation 	<ul style="list-style-type: none"> • Household responsibilities 	<ul style="list-style-type: none"> • Colleagues providing support
Negotiation of arrangements	<ul style="list-style-type: none"> • Organising time for study • Fitting in with life • Online learning 	<ul style="list-style-type: none"> • Partner taking financial responsibility 	

grid for the coping mechanism framework is shown in Table 7.2. Sub-categories for mechanisms found to operate are shown in relevant cells. These have mainly been taken from the sub-headings for the discussion of the elements. It should be noted that there was no evidence for mechanisms existing for the cell for work/ negotiation of arrangements. This is possibly because study normally took place in the home, rather than at work, so interviewees concentrated on reporting how they dealt with conflicting issues in the home to permit study to take place.

The online students not only used the mechanisms to cope with online study, but also the multiple associated challenges acting in concert. There was evidence in the interviews of students learning to adopt coping strategies to deal with the multiple challenges. No doubt, there were also many students, whom we were not able to interview, who were unable to adopt successful coping strategies, who became part of the early attrition statistics.

The coping mechanisms analytical framework could be useful in helping teachers advise online students finding it difficult to cope with study tasks. Chapter 12 has shown that online students rely much more heavily on their teachers for support than do on-campus students. If teachers are aware of the coping mechanisms framework, it could be used to suggest practical ways to help students cope with study demands in the home. As we were unable to find literature related to the coping mechanisms framework specific to online students, it is likely that teachers and counsellors would be unaware of such a holistic conceptual framework. The framework could also be useful to new online students, demonstrating that other students have been able to cope with the multiple associated challenges faced by online students, and the coping mechanisms they adopted to do so.

References

- Al Fadda, H. (2019). The relationship between self-regulations and online learning in an ESL blended learning context. *English Language Teaching*, 12(6), 87–93. <https://doi.org/10.5539/elt.v12n6p87>
- Bawa, P. (2016). Retention in online courses: Exploring issues and solutions: A literature review. *SAGE Open*, 6(1). 2158244015621777.
- Boyd, D. (2004). The characteristics of successful online students. *New Horizons in Adult Education and Human Resource Development*, 18(2), 31–39. <https://doi.org/10.1002/nha3.10184>
- Carr, S. (2000). As distance education comes of age, the challenge is keeping the students. *Chronicle of Higher Education*, 46(23), 39–42.
- HESP. (2017). *Improving retention, completion and success in Higher Education, Higher Education Standards Panel discussion paper*. Australian Government.
- Kember, D., & Leung, D. Y. P. (2004). Relationship between the employment of coping mechanisms and a sense of belonging for part-time students. *Educational Psychology*, 24(3), 345–357. <https://doi.org/10.1080/0144341042000211689>
- Kember, D. (1995). *Open learning courses for adults: A model of student progress*. Educational Technology Publications.
- Kember, D. (1999). Integrating part-time study with family, work and social obligations. *Studies in Higher Education*, 24(1), 109–124. <https://doi.org/10.1080/03075079912331380178>
- Kember, D., Chan, K. Y., Chan, S. W., Chan, S. Y., Chan, T. W., Chang, Y. M., Cheung, K. W., Lau, K. H., Lee, L. S., Lee, W. C., Li, W. S. W., Tam, K. C., Tang, O. Y. A., Tse, L. C., & Tse, W. J. (2005). How students cope with part-time study: An analysis of coping mechanisms through an on-line forum. *Active Learning in Higher Education*, 6(3), 230–242. <https://doi.org/10.1177/1469787405057662>
- Kember, D., Leung, D., & Prosser, M. (2019). Has the open door become a revolving door? The impact on attrition of moving from elite to mass higher education. *Studies in Higher Education*, 46(2), 258–269. <https://doi.org/10.1080/03075079.2019.1629411>
- Kintu, M. J., Zhu, C., & Kagambe, E. (2017). Blended learning effectiveness: The relationship between student characteristics, design features and outcomes. *International Journal of Educational Technology in Higher Education*, 14(1), 1–20. <https://doi.org/10.1186/s41239-017-0043-4>
- Levy, Y. (2007). Comparing dropouts and persistence in e-learning courses. *Computers and Education*, 48(2), 185–204. <https://doi.org/10.1016/j.compedu.2004.12.004>
- Lewis, R., & Spencer, D. (1986). *What is open learning?* Council for Educational Technology.
- Norton, A., Cherastidtham, I., & Mackey, W. (2018). *Mapping Australian higher education 2018*. <https://grattan.edu.au/wp-content/uploads/2018/09/907-Mapping-Australian-higher-education-2018.pdf>
- Phillips, J. A., Schumacher, C., & Arif, S. (2016). Time spent, workload, and student and faculty perceptions in a blended learning environment. *American Journal of Pharmaceutical Education*, 80(6), 102. <https://doi.org/10.5688/ajpe806102>
- Tello, S. F. (2007). An analysis of student persistence in online education. *International Journal of Information and Communication Technology Education*, 3(3), 47–62. <https://doi.org/10.4018/jicte.2007070105>
- Thorpe, M., & Grugeon, D. (1987). Moving into open learning. In M. Thorpe & D. Grugeon (Eds.), *Open learning for adults*. Longmans.
- Whitlock, D., Thorpe, M., & Galley, R. (2015). Student workload: A case study of its significance, evaluation and management at the Open University. *Distance Education*, 36(2), 161–176. <https://doi.org/10.1080/01587919.2015.1055059>
- Yum, J. C. K., Kember, D., & Siaw, I. (2005). Coping mechanisms of part-time students. *International Journal of Lifelong Education*, 24(4), 303–317. <https://doi.org/10.1080/02601370500169194>

Part II
Supporting the Retention and Success
of Online and Blended Learners

Chapter 8

Review of Support Provided by Student Support Services



Sarah Fischer  and Sue Kilpatrick 

Abstract This chapter reviews literature on higher education student support services to distil characteristics of service design and practice that act to enhance disadvantaged and non-traditional student retention and success and successful outcomes in transition from higher education. Relatively little is understood about factors affecting the success of online students. The review notes that support services for online students tend to be developed to mirror those for on campus students, and many online students are not able to access the support services they need. In addition, the needs of the increased diversity of the student cohort in universities toward the contemporary end of the spectrum does not necessarily mirror the needs of on campus students who tend to be younger and less likely to be low SES. Services which are more effective for the cohort of the contemporary university are strength-based and recognise that teaching staff are a key gateway to support services for this cohort.

8.1 Support During Study

8.1.1 Support Services

Continuing from Chap. 2 and moving further into the student lifecycle, a portion of the literature focuses on support practices during study at university. Universities offer various types of academic and non-academic support services and programs for equity group students once they are enrolled in a university course. These can include, but are not limited to, orientation programs, first year programs, academic support, social programs, alternate modes of study, financial support and support for health and well-being. It is widely acknowledged that these types of services are

S. Fischer (✉) · S. Kilpatrick
Faculty of Education, University of Tasmania, Launceston, TAS, Australia
e-mail: sarah.fischer@utas.edu.au

S. Kilpatrick
e-mail: sue.kilpatrick@utas.edu.au

beneficial (Bridgstock, 2009; Glaser et al., 2006; Priest, 2009; Simpson & Ferguson, 2012; Stone et al., 2016; Walton, 2016).

Priest (2009) provided a literature review concentrating on research about the types of support of a significant part of the non-traditional student cohort, low SES students need. Priest emphasises the importance of language and points out that this importance moves beyond literacy or being able to read and write. It requires a more sophisticated mastery of language and extends to using various modes of language; understanding and being able to participate in the academic discourse is essential for success at university. This is identified as an area where low SES students require support.

Stone et al. (2016) explored how the success of low SES students was impacted by their interaction with support and development initiatives during their studies at University of New South Wales, Australia. Overall, it was found that these services, which included support for academic writing, disabilities, counselling, educational and careers support, and co-curricular development programs, had a positive impact on the success of low SES students, who accessed the services at a rate equal to or higher than their peers.

Within this topic, some researchers look at Aboriginal and Torres Strait Islander cohorts. For example, Wilks and Wilson (2015) suggest that there is a need for an “ongoing and major need for targeted investment in skills, knowledge and support for these students to negotiate higher education cultures successfully through to course completion” (pp. 27–28). Hutchings et al. (2018) conducted a comprehensive systemic review of factors that affect the attraction, retention and completion for Aboriginal and Torres Strait Islander higher degree research students. They note that most research has focused on the experiences of indigenous students during their undergraduate studies and there is limited research examining why only small numbers of indigenous students continue on to higher degree research studies and the challenges faced by those who do. This is a gap that should be addressed.

In 2017, the Higher Education Standards Panel published a report titled ‘Improving retention, completion and success in higher education’. This report is a follow-up to a previously published report calling for transparency in admissions practices. It found that attrition rates had not changed much over the last decade, but that some institutions are better at retaining students than others. The report states that “the institution is a more important factor in explaining attrition than the basis of admission, the student’s ATAR, type of attendance, mode of attendance or age” (Higher Education Standards Panel, 2017, p. 5) and suggests that the strategies and methods used by these institutions be identified and looked to as examples.

This same report also recommended providing students with a greater range of exit options with meaningful qualifications. Luckman and Harvey (2019) show that even partially completing a bachelor’s degree is economically advantageous, with non-completers reporting higher incomes than those who have not attempted a Bachelor degree. Yet, there is very little Australian academic literature on this topic. One of the only studies located was Harvey and Szalkowicz (2016) who suggest that alternative exit points may be “an important way of reducing attrition, promoting student mobility, and reducing inequities across the higher education sector.” The following

year, Harvey and Szalkowicz (2017, p. 79) suggest that universities should attempt to re-engage students who leave university prior to completing their studies as they “generally remain positive about higher education; and are relatively likely to return to the sector in future. Despite this, they found that universities have limited strategies surrounding point of departure and have little communication with departing students.

8.1.2 Inclusive Pedagogies and Learning Spaces

Within the classroom, researchers agree that curriculum and inclusive pedagogies should be taken into consideration when planning support for low SES students (Gale & Mills, 2013; Thomas, 2014; Tranter, 2012). For example, Thomas (2014) conducted a study which found that universities are generally successful in recruiting and supporting student from low SES backgrounds, but there is a gap when it comes to consideration within the classroom. He suggests that universities should direct more attention to the teaching and learning challenges and opportunities created by increased student diversity. Among the strategies the author identifies for this are “the need for different thinking, new approaches to pedagogy and learning support, and appropriate staff development and resources” (p. 816).

Gale and Mills (2013) also identify the need to develop an approach to pedagogy that is inclusive for students from low SES backgrounds. They offer three principles for doing this. First, the pedagogy should be focused on student assets, not deficits, and recognise the unique attributes that students from low SES backgrounds bring to the classroom. This is consistent with (Yosso, 2005, p. 69) who calls for a shift away from the deficit view to one that “focuses on and learns from the array of cultural knowledge, skills, abilities and contacts possessed by socially marginalized groups that often go unrecognized and unacknowledged.” The second principle is to acknowledge and value the differences these students bring to the classroom, while the same time providing them access to new ways of thinking and expressing themselves, thus enabling critical engagement with the academic system. And finally, the aim of an inclusive pedagogy should be “to ‘work with’ rather than ‘act on’ students and their communities” (p. 15), a practice that is collaborative in approach.

Tranter (2012), on the other hand, looks at the more specific details of the curriculum and suggests that the hierarchy and choices of subjects offered in secondary school combined with the entrance requirements for university are skewed against students from low SES backgrounds. She argues (p. 913) that “the expansion of vocational education in low SES schools has re-introduced a class-differentiated system of technical education to train working-class ‘kids’ ... while constraining pathways to higher education that can lead to more secure employment” and suggests that universities should reassess their recruitment and admission requirements and make them more flexible.

8.1.3 Modes of Study, Engaging and Inclusive Learning Spaces and Technologies

Another area researchers have focused on is modes of study for students from non-traditional backgrounds (Bailey et al., 2018; Bawa, 2016; House-Peters et al., 2019; Kember, 2007; Pollard, 2017; Qayyum et al., 2019). Today, the predominant mode of distance study is some variant of online learning. Indeed, all tertiary study in advanced societies involves both a choice of modes of study (Bailey et al., 2018), as well as some blending of different modes of virtual and F2F learning (Keengwe, 2019). This change toward more online and blended learning is not necessarily a good fit for students without family and friends nearby, ideally possessing higher education experience that enables “insider” advice (Devlin & McKay, 2018a; Mills & Gale, 2007). Entry directly from high school is no longer the standard path, resulting in the age range of students widening considerably. As a result, non-traditional background students often begin tertiary studies lacking confidence, preparation and the cultural and social capital (Bell & Santamaria, 2018; Bourdieu, 1984; Macqueen, 2018) that tends to support tertiary success. Studies of university students, studying by a range of modes of distance and blended learning, have indicated the importance of students’ conceptions of teaching and learning, their epistemological beliefs and how these relate to approaches to learning in-class and online (Kember, 2001, 2007). Inexperienced and disadvantaged students commonly hold reproductive teacher-centred beliefs and find it hard to adapt to other study modes.

Bawa (2016) conducted a literature review focused on retention in online courses and identified various factors affecting retention and proposed solutions. This literature review was not limited to higher education, nor students from non-traditional backgrounds, but because many students from non-traditional backgrounds are involved in online learning, the findings from this study are important to consider. The factors found to affect retention included misconceptions relating to cognitive load, social and family factors, motivational factors, technological constraints for digital natives who are familiar with popular technology, but not educational technology, lack of instructor understanding of online learners, faculty limitations of using technology and lack of training for faculty. To address these issues, Bawa (2016) proposes four solutions: mandatory orientation programs for students, using live interaction and transparency in computer mediated communication, creating classes structured for collaborative learning and enhancing faculty training and support.

8.1.4 Non-academic Support

In addition to providing academic support as described above, researchers recommend non-academic support be provided as well (White, 2014). This may include providing social activities, employment support (work integrated learning, part time

employment, leadership programs, mentoring) (Bridgstock, 2009; Harwood et al., 2015; Lenette & Ingamells, 2013), and services such as childcare (Dodson & Deprez, 2019), counselling and health (Jackson et al., 2011; Simpson & Ferguson, 2012; Wright & Titus, 2013), and financial aid and scholarships (Devlin & McKay, 2018b; Qayyum et al., 2019). While there is agreement that non-academic support services are needed, there is very little literature examining these services in detail. The area of non-academic support that researchers have examined most extensively is financial support (De La Rosa, 2006; Devlin & McKay, 2018b; Johnson, 1998; Kane & Spizman, 1994; Murray et al., 2012; Qayyum et al., 2019). For example, Lenette and Ingamells (2013) offer a case study in which they follow a group of overseas skilled migrants and refugees as they progressed through a graduate certificate that offered fee scholarships. They found that this particular program allowed the group to advance as a cohort, often as the majority group in class, and to tailor the curriculum to their needs. This provided an enriching learning experience for these students. While this method was successful, it was resource intensive.

8.1.5 Online Students' Support Preferences

Support services for online students have tended to be developed to mirror those for on campus students, and so online students miss the particular academic and non-academic services they need (Dare et al., 2005). The typically heterogeneous online student cohort requires support approaches that are “purposeful, proactive, and timely, focussed on early intervention, anticipatory guidance, preparedness for online study, skill development, and social and academic engagement (Brindley, 2014, p. 293). Students studying at a distance (for example, online) are unlikely to use university academic or non-academic student support services, according to a qualitative Canadian study (Cain et al., 2007). When available, distance students prefer geographically close, non-university face to face support services to services delivered at or from a distant campus.

Despite detailed email communication about online and on campus services with embedded links, and contact lists of relevant staff, most students in Cain et al.'s (2007) study were unaware of the services available and/or did not believe they meet their needs. Other researchers report similar findings (Dare et al., 2005; Owens et al., 2009). Rather than formal support services, students seek out their instructors and peers for academic and psychosocial support. The knowledge and expertise of the instructor or tutor is important for student retention and success as they play a more prominent role in support for the distance compared to on campus student (Lentell, 2003; Mason, 2003; Owens et al., 2009). For this reason and because many online students who drop out do so very early in their study, tutors should make personal connections with online students during student orientation (Forrester et al., 2005). As well as instructor psychosocial support, peer support can assist overcome online students' sense of isolation that can lead to drop out (Owens et al., 2009); facilitating

formation of online peer networks is a strategy to increase engagement and retention, made easier by the affordances of modern online environments (Brindley, 2014).

Students expect support services to be available at a time when they are studying, that is be available 24 h a day, seven days a week. Attention has only recently shifted to designing online support services for online learners (Richardson, Sheeks, Waller & Lemoine, 2021). Online learner support services can increase student engagement in online learning (He et al., 2019) and retention (Lemoine et al., 2019). Effective online support services for online learners are embedded across the student lifecycle (Rotar, 2022).

8.2 Attainment and Transition Out

While much attention is paid to enabling programs and support during study, there is a gap in the literature regarding the “initiatives during later years of participation, including those relating to completion, transition to employment and postgraduate study” (Bennett et al., 2015, p. 7). There are, however, a few studies worth noting. Smith-Ruig (2014) explored the links between mentoring and work integrated learning and found that mentoring is an “effective means of addressing the gap between the skills needed and valued by students and those of the workplace” (Smith-Ruig, 2014, p. 780). This study focused on female law students, but universities could use mentoring of work integrated learning as a model to expand to a wider audience or integrate into more degree programs. Similarly, Reed et al. (2015) examined Macquarie University’s Media Mentorship program, which is aimed at providing pathways from university into the media industry for culturally and linguistically diverse and Aboriginal and Torres Strait Islander students. They found that in general, the program was successful at increasing diversity and identify three features of the program that could be applied to other participation widening efforts to help ensure success: designing for evaluation, cross-sectoral collaboration and conceptual evolution.

8.3 Professional Development for Staff to Support Students

The professional development for staff to support students was an issue that cut across other areas described above. For example, Bawa (2016) called for enhanced faculty training and support for online learning, Thomas (2014) identified the need for appropriate staff development and resources in order to support the increased diversity in classrooms. Crawford et al. (2018) note the high emotional labour demands of teaching a vulnerable cohort. This is another area that represents a gap in the literature. While there is recognition that professional development for staff to support students is needed, little research has been conducted in this area.

8.4 Conclusions

8.4.1 Support Services

Support services are a key to success once disadvantaged students have entered university. However, as identified throughout this chapter, there are gaps in the literature. In summary, these gaps include the following:

- How non-academic support service can best respond to increased student diversity,
- How moves toward more blended and online learning affect the retention and success of low SES students,
- The benefits of alternative exit points for low SES students,
- Best practices for support in attainment and transition out of university, and
- Professional development to support both professional and academic staff who are providing support to students.

Despite these gaps, key points from the literature include:

- Language needs to be a focus for disadvantaged students. This moves beyond basic reading and grammar skills and includes academic vocabulary and academic use of language.
- Alternative exits should be considered, and opportunities provided for students who would like that option.
- Asset-focus, or strengths-based approaches, rather than deficit focus for disadvantaged students. Pedagogy should recognise the unique attributes that students from non-traditional backgrounds bring to the classroom and acknowledge the differences they bring to the classroom while providing access to new ways of thinking and expressing themselves.
- Online learning is not necessarily beneficial for diversity of students that universities now attract. Many students prefer and have a higher rate of success with face-to-face learning. In addition, face-to-face learning helps them to build social capital and support, which is something that most students from equity groups lack. However, the research in this book shows that the recruitment of low SES, regional and remote and other non-traditional background students is facilitated by the provision of online learning.

Online students prefer academic and psychosocial support to be delivered through their instructor. Training for instructors in how to deliver support and ensuring instructors are connected to institutional support services can facilitate retention and success. Online support services designed to match the student lifecycle of online learners can improve retention and success.

References

- Bailey, M., Gosper, M., Ifenthaler, D., Ware, C., & Kretzschea, M. (2018). On-campus, distance or online? Influences on student decision-making about study modes at university. *Australasian Journal of Educational Technology*, 34(5), 72–85. <https://doi.org/10.14742/ajet.3781>
- Bawa, P. (2016). Retention in online courses: Exploring issues and solutions—A literature review. *SAGE Open*, 6(1), 215824401562177. <https://doi.org/10.1177/2158244015621777>
- Bell, A., & Santamaria, L. (Eds.). (2018). *Understanding experiences of first generation university students: Culturally responsive and sustaining methodologies*. Bloomsbury Academic. Retrieved from <https://www.bloomsbury.com/au/understanding-experiences-of-first-generation-university-students-9781350031845/>
- Bennett, A., Naylor, R., Mellor, K., Brett, M., Gore, J., Harvey, A., ... Whitty, G. (2015). *The critical interventions framework part 2: Equity initiatives in Australian Higher Education: A review of evidence of impact* (p. 118). Curtin University: National Centre for Student Equity in Higher Education. Retrieved from National Centre for Student Equity in Higher Education website: https://www.ncsehe.edu.au/wp-content/uploads/2018/06/23_UoN_AnnaBennett_Supplied_Part2.pdf
- Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste*. Harvard University Press.
- Bridgstock, R. (2009). The graduate attributes we've overlooked: Enhancing graduate employability through career management skills. *Higher Education Research & Development*, 28(1), 31–44. <https://doi.org/10.1080/07294360802444347>
- Brindley, J. E. (2014). Learner support in online distance education: Essential and evolving. In O. Zawacki-Richter & T. Anderson (Eds.), *Online distance education. Towards a research agenda* (pp. 287–310). AU Press.
- Cain, D. L., Marrara, C., Pitre, P. E., & Armour, S. (2007). Support services that matter: An exploration of the experiences and needs of graduate students in a distance learning environment. *International Journal of E-Learning & Distance Education*, 18(1), 42–56.
- Christie White. (2014). Using principles of trust to engage support with students from low socio-economic backgrounds. A practice report. *International Journal of the First Year in Higher Education*, (2), 81. <https://doi.org/10.5204/intjfyhe.v5i2.234>
- Crawford, N., Olds, A., Liscandro, J., Jaceglav, M., Westacott, M., & Osenieks, L. (2018). Emotional labour demands in enabling education: A qualitative exploration of the unique challenges and protective factors. *Student Success*, 9(1), 23. <https://doi.org/10.5204/ssj.v9i1.430>
- Dare, L. A., Zapata, L. P., & Thomas, A. G. (2005). Assessing the needs of distance learners: A student affairs perspective. *New Directions for Student Services*, 2005(112), 39–54.
- De La Rosa, M. L. (2006). Is opportunity knocking? Low-income students' perceptions of college and financial aid. *American Behavioral Scientist*, 49(12), 1670.
- Devlin, M., & McKay, J. (2018a). Facilitating the success of students from low SES backgrounds at regional universities through course design, teaching, and staff attributes. In M. Shah & J. McKay (Eds.), *Achieving equity and quality in higher education: Global perspectives in an era of widening participation* (pp. 73–95). Springer International Publishing. https://doi.org/10.1007/978-3-319-78316-1_4
- Devlin, M., & McKay, J. (2018b). The financial realities for students from low SES backgrounds at Australian regional universities. *Australian and International Journal of Rural Education*, 1, 121.
- Dodson, L., & Deprez, L. S. (2019). "Keeping Us in Our Place": Low-income moms barred from college success. *Contexts*, 18(1), 36–41. <https://doi.org/10.1177/1536504219830675>
- Forrester, G., Motteram, G., Parkinson, G., & Slaouti, D. (2005). Going the distance: Students' experiences of induction to distance learning in higher education. *Journal of Further and Higher Education*, 29(4), 293–306.

- Gale, T., & Mills, C. (Eds.). (2013). Creating spaces in higher education for marginalised Australians: Principles for socially inclusive pedagogies. *Enhancing Learning in the Social Sciences*, 5(2).
- Glaser, N., Hall, R., & Halperin, S. (Eds.). (2006). Students supporting students: The effects of peer mentoring on the experiences of first year university students. *JANZSSA*, (27).
- Harvey, A., & Szalkowicz, G. (2016). Developing multiple exit pathways within undergraduate courses. *International Studies in Widening Participation*, 3(1), 52–67.
- Harvey, A., & Szalkowicz, G. (2017). From departure to arrival: Re-engaging students who have withdrawn from university. *Journal of Further and Higher Education*, 41(1), 79–97. <https://doi.org/10.1080/0309877X.2015.1062852>
- Harwood, V., McMahon, S., O’Shea, S., Bodkin-Andrews, G., & Priestly, A. (2015). Recognising aspiration: The AIME program’s effectiveness in inspiring Indigenous young people’s participation in schooling and opportunities for further education and employment. *The Australian Educational Researcher*, 42(2), 217–236. <https://doi.org/10.1007/s13384-015-0174-3>
- He, H., Zheng, Q., Di, D., & Dong, B. (2019). How learner support services affect student engagement in online learning environments. *IEEE Access*, 7, 49961–49973.
- Higher Education Standards Panel. (2017). *Improving retention, completion and success in higher education* (p. 54). Australian Government.
- House-Peters, L., Del Casino, V., & Brooks, C. (2019). Dialogue, inquiry, and encounter: Critical geographies of online higher education. *Progress in Human Geography*, 43(1), 81–103. <https://doi.org/10.1177/0309132517735705>
- Hutchings, K., Bainbridge, R., Bodle, K., & Miller, A. (2018). Determinants of attraction, retention and completion for aboriginal and torres strait islander higher degree research students: A systematic review to inform future research directions. *Research in Higher Education*. <https://doi.org/10.1007/s11162-018-9511-5>
- Jackson, V., Henderson, D. L., Edwards, Jr., Dothel W., & Raines, G. M. (2011). Accommodation strategies for health sciences students with disabilities. *Journal of Best Practices in Health Professions Diversity: Education, Research & Policy*, 4(1), 585–594.
- Johnson, P. (1998). 10 Steps to help the planning-impaired pay for college. *Journal of Financial Planning*, 11(2), 96–99.
- Kane, J., & Spizman, L. M. (1994). Race, financial aid awards and college attendance: Parents and geography matter. *American Journal of Economics & Sociology*, 53(1), 85.
- Keengwe, J. (2019). *Handbook of research on blended learning pedagogies and professional development in higher education*. IGI Global. Retrieved from <https://www.igi-global.com/book/handbook-research-blended-learning-pedagogies/190385>
- Kember, D. (2001). Beliefs about knowledge and the process of teaching and learning as a factor in adjusting to study in higher education. *Studies in Higher Education*, 2, 205.
- Kember, D. (2007). *Reconsidering open and distance learning in the developing world: Meeting students’ learning needs*. Routledge. (Morris Miller Main LC 5808 .D48 K46 2007).
- Lemoine, P. A., Sheeks, G., Waller, R. E., & Richardson, M. D. (2019). Retention of online learners: The importance of support services. *International Journal of Technology-Enabled Student Support Services (IJTESSS)*, 9(2), 28–38.
- Lentell, H. (2003). The Importance of the Tutor. In A. Tait & R. Mills (Eds.), *Open and distance learning in rethinking learner support in distance education: Change and continuity in an international context* (pp. 64–76). Routledge.
- Lenette, C., & Ingamells, A. (Eds.). (2013). From “chopping up chicken” to “cap and gown”: A university initiative to increase pathways to employment for skilled migrants and refugees. *Advances in Social Work and Welfare Education*, 15(1).
- Luckman, M., & Harvey, A. (2019). The financial and educational outcomes of Bachelor degree non-completers. *Journal of Higher Education Policy and Management*, 41(1), 3–17. <https://doi.org/10.1080/1360080X.2018.1553106>
- Macqueen, S. (2018). Family and social capital for the success of non-traditional students in higher education. *International Studies in Widening Participation*, 5(1), 14.

- Mason, R. (2003). Online learning and supporting students: New possibilities. In A. Tait & R. Mills (Eds.), *Rethinking learner support in distance education: Change and continuity in an international context* (pp. 90–101). Routledge.
- Mills, C., & Gale, T. (2007). 'Remind me; what's the point of schooling?' *Factoring back in the influence of changing economic, political and cultural contexts* (p. 13). Australian Association for Research in Education.
- Murray, C., Lombardi, A., Bender, F., & Gerdes, H. (2012). Social support: Main and moderating effects on the relation between financial stress and adjustment among college students with disabilities. *Social Psychology of Education, 16*(2), 277–295. <https://doi.org/10.1007/s11218-012-9204-4>
- Owens, J., Hardcastle, L. A., & Richardson, B. (2009). Learning from a distance: The experience of remote students. *International Journal of E-Learning & Distance Education, 23*(3), 53–74.
- Pollard, L. (2017). *Remote student university success: An analysis of policy and practice* (p. 64). National Centre for Student Equity in Higher Education.
- Priest, A.-M. (Ed.). (2009). "I have understanding as well as you": Supporting the language and learning needs of students from low socio-economic status backgrounds. *Journal of Academic Language and Learning, 3*(2).
- Qayyum, A., Zipf, S., Gungor, R., & Dillon, J. M. (2019). Financial aid and student persistence in online education in the United States. *Distance Education, 40*(1), 20–31. (Routledge. Available from: Taylor & Francis, Ltd. <http://www.tandf.co.uk/journals>).
- Reed, R., King, A., & Whiteford, G. (2015). Re-conceptualising sustainable widening participation: Evaluation, collaboration and evolution. *Higher Education Research & Development, 34*(2), 383–396. <https://doi.org/10.1080/07294360.2014.956692>
- Richardson, M. D., Sheeks, G., Waller, R. E., & Lemoine, P. A. (2021). Pursuit of online services for online students. In *Research anthology on developing effective online learning courses* (pp. 1850–1880). IGI Global.
- Rotar, O. (2022). Online student support: A framework for embedding support interventions into the online learning cycle. *Research and Practice in Technology Enhanced Learning, 17*(1), 1–23.
- Simpson, A., & Ferguson, K. (2012). Mental health and higher education counselling services—Responding to shifting student needs. *Journal of the Australian and New Zealand Student Services Association, 39*, 1–8.
- Smith-Ruig, T. (2014). Exploring the links between mentoring and work-integrated learning. *Higher Education Research & Development, 33*(4), 769–782. <https://doi.org/10.1080/07294360.2013.863837>
- Stone, M., Walton, T., Clark, C., & Ligertwood, L. (Eds.). (2016). The influence of support and development programs and services on the success of university students from low socioeconomic status backgrounds. *JANZSSA, 48*(48).
- Thomas, G. (2014). Closing the policy–practice gap for low-SES students in higher education: The pedagogical challenge. *Higher Education Research & Development, 33*(4), 807–820. <https://doi.org/10.1080/07294360.2013.863846>
- Tranter, D. (2012). Unequal schooling: How the school curriculum keeps students from low socio-economic backgrounds out of university. *International Journal of Inclusive Education, 16*(9), 901–916. <https://doi.org/10.1080/13603116.2010.548102>
- Walton, T. (2016). Using a mixed methods approach to investigate university student success after support service interaction: A case study and analysis. *Journal of the Australian and New Zealand Student Services Association, 2016*(48), 38–49.
- Wilks, J., & Wilson, K. (2015). A profile of the Aboriginal and Torres Strait Islander higher education student population. *Australian Universities' Review, 57*(2), 17–30.
- Wright, S. A., & Titus, D. S. (2013). Experiences and perceptions of students with disabilities concerning factors influencing participation in recreational sports at a University in the Western Cape Province, South Africa. *African Journal for Physical, Health Education, Recreation & Dance, 19*(4–2), 1146–1157.

Yosso, T. J. (2005). Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race Ethnicity and Education*, 8(1), 69–91. <https://doi.org/10.1080/1361332052000341006>

Chapter 9

Review of Literature on Attrition



David Kember and Si Fan

Abstract The review of research on attrition commences with research on face-to-face teaching. Early research on entry characteristics and their relationship to attrition was discredited, as it was found that such variables predicted little of the variance in retention and success. Instead, research concentrated on developing models which took into account what occurred during the course of study. The most highly cited is the model of Tinto, which posited that retention was promoted through students becoming socially and academically integrated with the college community, through student–student and student–teacher interaction on-campus. It has been found difficult to translate this influential research into the context of online teaching, as it lacks the direct student–student and student–teacher contact which provides the integrative mechanism. The chapter concludes by reviewing research into virtual communities in online learning.

9.1 Introduction

This chapter provides a review of the literature on student attrition in higher education. The work reviewed is relevant to, and provides a theoretical framework for, the other parts of the book, most particularly in Chaps. 10, 14, 15, 16, 17, and 20. Rather than a systematic or a large-scale review, this chapter reviews a selection of literature on attrition that is the most relevant to the content covered in this book. The work covered in this chapter adds to the review of student support services provided in Chap. 8, which is also believed to be pertinent to attrition, as a principal aim of the support services is promoting the retention and success of students.

A position to establish initially relates to terminology. The terms attrition and retention are used interchangeably in this chapter. The early literature referred to

D. Kember (✉)
Gravelly Beach, Australia

S. Fan
University of Tasmania, Launceston, Tasmania, Australia
e-mail: si.fan@utas.edu.au

dropout or attrition. As it appears to have become less acceptable to refer to negative outcomes, the term retention has become more common in the relevant literature. Success is also referred to as an important outcome that goes beyond just managing to complete a degree. Conventionally, success is normally measured by grades or the Grade Point Average (GPA), but the types of students who find online learning suit their needs undoubtedly view success in broader terms (see Chap. 5).

9.2 Attrition from On-Campus Learning

In the latter part of the twentieth century, attrition from higher education became of such concern to universities that there is a voluminous research literature on it. The early research focused on on-campus or face-to-face learning and teaching. It is, however, important to review the early research, as the research techniques, conceptual models, the testing of these models, and the support programs based on the models, should pave the way for research into attrition from online learning. The need to review this early work means that it may seem dated, but that does not preclude it from being relevant and the main body of work reviewed here is seminal.

The reader may question why a book about online and blended learning needs to dedicate a substantial amount of attention to research into attrition from face-to-face or on-campus teaching and learning; particularly if this research is predominantly not recent. The reason is that, as this chapter and recent reviews of the literature on attrition from online learning pointed out, the online learning attrition literature has often not noted the insights gained from the research into on-campus teaching and learning (Bowles & Brindle, 2017; Delnoij et al., 2020; Lee & Choi, 2011; Muljana & Luo, 2019). In particular, this chapter notes the significant position of multivariate models in the attrition literature. However, none of the reviews of online attrition cited above managed to locate such a model. Lee and Choi (2011) explicitly stated that they could not find one. This chapter interprets this as a significant gap in the literature, which Part III of this book attempts to fill.

The early research into attrition from on-campus teaching and learning looked for factors that correlate with attrition. However, single variable studies, or those which used techniques like multiple regression to examine combinations of variables, proved to be limited in their ability to explain drop-out. A review of research into attrition noted that: “There appears to be a wealth of statistically reliable, ex post facto associations that offer a markedly unparsimonious explanation of the dropout process (Pascarella & Terenzini, 1980, p. 60)”.

More successful research has regarded student persistence as a multivariate problem involving complex interactions over the period of the course; commonly known as longitudinal process models (Kember, 1989; Qvortrup & Lykkegaard, 2022). A longitudinal process model is attractive in that it has provisions for interpreting the effect on the student of the course and support services provided by the institution and the degree to which the study is compatible with the student’s lifestyle (Kember, 1989). It recognises the potential impact of interventions by the institution

and events in the student's life rather than merely relating the drop-out phenomenon to a set of variables apparently predestined to be related to attrition.

Along these lines, models have been developed by Spady (1971), Tinto (1975, 1987, 1993), and others which drew upon Durkheim's (1951) theory of suicide to suggest that students were most likely to drop-out if they were insufficiently integrated with the fabric of college society. The work of Tinto has been particularly influential. Tinto (1975) proposed that two types of integration were necessary, namely moral or value integration to achieve academic integration, and collective affiliation to establish social integration. A subsequent development of the model by Tinto (1987) drew upon Van Gannep's (1960) concept of the rites of passage to suggest that successful students are most likely to achieve integration through moving from membership in their previous social community to college society.

The Tinto model has subsequently been modified to shift the focus beyond the traditional student. Subsequent updates have clearly pointed to the role of institutions in creating supportive environments for diverse student populations (Engstrom & Tinto, 2008; Tinto, 1993, 2012, 2015). However, the focus has remained on face-to-face teaching, as testified by the word 'classroom' appearing in the title of the Tinto (2012) article.

9.3 Tinto's Model of Attrition

The research reported in Part III of this book draws heavily upon constructs developed by Tinto (1975) in his original model of persistence and in his subsequent theoretical development of the work (Tinto, 1987). It is, therefore, pertinent to examine in greater detail both the model itself and two constructs on which Tinto based his development of the model. These two constructs, which are examined in turn, are Van Gannep's (1960) work on rites of passage and Durkheim's (1951) theory of suicide. Tinto drew analogies between both of these sociological models and their influences on student drop-out.

9.3.1 *Van Gannep's Rites of Passage Theory*

Van Gannep (1960) envisaged an individual's life as a series of passages marked by changes in group membership or the individual's status. Changes are accompanied by dislocation and disruptions, but rituals and ceremonies can help ease these challenges (Van Gannep, 1960). The function of the ceremonies is both to announce the new status of the novitiate and also to provide a mechanism to introduce the new group and assist the newcomers to become established within it.

Van Gannep (1960) asserted that the change from one status or group to another was a three-phase process, with discrete stages of separation, transition and incorporation. Separation implies a decrease in interactions with membership of the group

that the individual is leaving. It can be accompanied by a ceremony indicating that membership of that group is no longer necessary to the leaver. Transition sees the start of interaction with the new group and learning about their norms and behaviors. Van Gannep (1960) observed that training, isolation or ordeals were rites which could accompany the transition phase. Incorporation means becoming accepted as a member of the new group and performing functions implied by membership. It can be marked by a ceremony announcing that the new group has been joined and certifying the obligations and privileges that entails.

Tinto (1987) saw a parallel between Van Gannep's (1960) stages in rites of passage and the movement of students from the high school community to college or university. Tinto saw this transition as being generally similar to the passage of individuals between human communities. He, further, saw that the students' ability to overcome the problems of adjustment and become incorporated into the new college community would have a major influence on whether they persisted as a member of college society (Tinto, 1987).

The first phase of changing status from high school graduate to college student consisted of separation from high school friends and the local community. Students who physically moved to live on a college campus needed to undergo a social and emotional transplantation too. Those unable to put aside their ties to their local community may have been unable to make the transition to become members of college society.

Tinto (1987) notes that those who attend a local, non-residential college face less of a dislocation as they do not have to re-locate away from their existing social and family relationships. However, because these students do not disentangle themselves from their existing web of relationships, any ties they establish with the new college community are likely to be weaker. As a result, they may find it easier to cope with the initial move to higher education but subsequently find that they have less entrenched relationships with their new environment than those who undergo a more intrusive break with their social relationships.

The second transition phase requires students to adapt to the conventions of college life and establish themselves within the social and intellectual community of the college. The ease with which students cope with this transition depends on how closely their academic conception and social circle match those of the college that they are entering. Clearly, those with a conception of academic study which does not match the expectations of academia will find this transition difficult (Perry, 1970, 1988). Similarly, those who come from a different social background to the majority of their college community are likely to find difficulties with the transition process. The greater the difference between the norms of college behaviour and that of the student's home community, the more difficult the transition process is likely to be. The obvious implication of this statement is that the greatest difficulties are likely to be faced by those from minority groups, overseas students, mature entrants, or those from small rural or isolated communities.

The final phase is that of incorporation into the social and intellectual fabric of college or university society. Few universities and colleges arrange much which resembles ceremony or ritual to mark this passage. In the main it is left to less formal

student–student and faculty-student contacts to provide an integrative mechanism. If the process is successful, the newcomer will eventually feel that he or she has become an established member of the college community.

9.3.2 Durkheim’s Theory of Suicide

To examine the issues of whether and how students become integrated into college society, Tinto turned to the work of Durkheim (1951) on suicide. The reason for Tinto turning to Durkheim’s theoretical model, was that he saw an analogy between the act of dying by suicide and failing to complete a college education by dropping-out. Durkheim (1951) classified suicide into four types: altruistic, anomic, fatalistic and egotistical. The first three of these concern suicide from societies of particular types or at times when specific conditions impinge.

Egotistical suicide is the form that is the most relevant to student persistence, because it is symptomatic of individuals who become isolated from society’s communities due to an inability to integrate and establish membership. Durkheim (1951) noted that suicide could occur if two forms of integration were lacking. The first was social integration, which occurred through interactions with other members of society and led to the formation of personal affiliations. The second was value or intellectual integration, which was resulted when there was insufficient commonality in values and beliefs with those of the relevant community.

Durkheim (1951) argued that if either form of integration were lacking, there was some tendency towards suicide, as individuals would become either social isolates or intellectual deviants. Egotistical suicide is normally accompanied by the lack of both social and intellectual integration. The concurrence of both conditions precludes the intellectual deviant from social integration in a deviant community or the social isolate from concurring with society’s values expressed via the media.

The likelihood of an individual dying by egotistical suicide depends upon that individual’s ability to establish social and intellectual integration. The overall rate of egotistical suicide within a particular society depends on the nature of that society and upon the presence of integrative mechanisms to enable individuals to become established as members of intellectual and social communities.

Spady (1971), and subsequently Tinto (1975), saw an analogy between Durkheim’s (1951) theory of suicide and drop-out from college society. They postulated that drop-out was more likely to occur among students who were unable to establish membership of the college’s social community or who differed from the prevailing values and intellectual norms of the college. Institutions which were not able to provide mechanisms by which students can achieve these forms of integration are likely to be those with high drop-out rates.

9.3.3 Tinto's Model of Student Integration

The model which Tinto (1975) synthesised from previous attrition research, and more particularly from the work of Durkheim (1951), contains multiple components reflecting students' passage through university. The first part of the model contains entry characteristics of students, which affect succeeding elements. Typically, the entry characteristics would involve family background, individual attributes and pre-college schooling. The second part of the model concerns goal and institutional commitment. Goal commitment is the student's motivation for the goal of studying at college. Institutional commitment is the decision of the college as to whether the student satisfies the criteria for remaining in the course.

The model then splits into two tracks for academic and social systems which influence academic and social integration respectively. The social track features student–student and teacher–student interactions influencing social integration. The academic track contains grade performance and intellectual development, as indicators of academic congruence, influencing academic integration. The two tracks then converge on a repeat of the goal and institutional commitment component, which in this case acts as a decision-making choice in which both student and institution decide whether the outcome is dropout or continuation. If the student continues, the process can be seen as the student recycling through the model; with positive outcomes more likely in successive recycles, due to the levels of social and academic integration achieved in previous cycles.

9.3.4 Tinto's Model in the Context of Online Learning

The preceding sections of this Chapter have made it clear that Tinto's (1975) model was formulated as an explanation for attrition from what would now be called on-campus study. The time the model was postulated was in the era when higher education would still have been largely classified as elite. Just about all students attended classes on campus. Many relocated in term time to reside on campus or nearby (Fisher et al., 1985). Some were commuter students who travelled from their homes to attend classes. The interpretation of the constructs of rites of passage and integration above clearly reflects this student body.

However, this book is about online and blended learning, which is a markedly different form of teaching and learning. The book aims to provide insights to those who have had to adapt to teaching and learning at a time when students and their teachers are restricted from campus attendance. The research in the book gathered data from a student body following the expansion and diversification of higher education in a university. This university had adopted a contemporary model of admission and course delivery, so had a very different cohort to that when Tinto's model was formulated. It is, therefore, pertinent to closely examine the Tinto model to assess how applicable it is to online and blended learning and the types of students recruited

into the mode of teaching and learning in contemporary higher education. As Tinto's model has been so influential and widely cited, it would seem highly worthwhile to consider how it might be adapted to suit online and blended learning.

9.3.4.1 Rites of Passage

The construct of a rite of passage appears relevant to the issues raised in three earlier chapters in Part I and two of the chapters in Part II. The rural, regional and remote (RRR) students discussed in Chap. 6 faced a rite of passage in transitioning from being brought up in a RRR community, which might not value higher education, to become a member of the university student community. The interviews revealed that the transition could be a major dislocation. As those interviewed were online students, they had opted not to physically separate from their RRR community in favour of studying online from their homes. This lack of separation considerably reduced the dislocation, but according to Tinto's interpretation of a rite of passage, may have weakened their ties to the student community. The process can be envisaged as a tension between membership of two communities. By remaining in the RRR community, the student retains membership of that community. However, Chap. 6 presented evidence that the prevailing values of the RRR community did not particularly value participation in higher education, which could weaken the students resolve to persist with university study. By enrolling in higher education, though, RRR students aspire to become an established member of the student and university communities, which place academic success at the centre of their rationale. The student, therefore, faces a conflict between membership of the two communities, which might weaken the resolve to complete a degree.

The concept of multiple associated challenges acting in concert introduced in Chap. 5 is also worthwhile discussing in terms of a rite of passage. Following the expansion and diversification of the student body, students enrolling at the university, which had adopted the contemporary model of admission and course delivery, faced the multiple associated challenges at the start of their study. There was certainly no process of separation from these challenges as they were associated with their homes and work lives. If there was a rite of passage, it was the adoption of the coping mechanisms detailed in Chap. 7. Their adoption enabled students to reconcile the demands of study with coping with the multiple associated challenges. However, if students were unable to complete a rite of passage and commit to adopting the coping mechanisms, they would be less likely to succeed with their course of study.

The final consideration of rites of passage concerns the formation of virtual learning communities discussed in Chaps. 14 and 17. The formation of the learning communities can be seen as the final incorporation phase of a rite of passage. The evidence in the two chapters suggested that the formation of learning communities took time and required high quality pedagogical support from their online teachers, which would appear consistent with the final phase of a rite of passage.

9.3.4.2 Integration of Online Students

The key mechanism for reducing attrition in the Tinto model is integration. Tinto (1975) posited that students who had achieved social and academic integration with college society were less likely to drop out.

The difficulty of adapting longitudinal process models of retention, such as those of Tinto, to online learning lies in the central tenets of social and academic integration. In research into on-campus teaching, these constructs have typically been operationalised through student–student and teacher–student interaction (Engstrom & Tinto, 2008; Pascarella & Terenzini, 1980; Tinto, 2012, 2015). Student service programs to reduce attrition, such as orientation and pre-enrolment preparation courses, are organised for students to meet their peers and teachers, with the aim of forming socially cohesive groups and thereby boost social integration. The sessions prepare students for face-to-face teaching, through on-campus classes, with the aim that academic integration will occur.

Online learning, however, normally has no face-to-face student–student or student–teacher contact. Instead, any contact is virtual, and in most cases asynchronous. Similarly, components of blended learning are introduced as virtual substitutes for direct contact, and therefore reduce direct student–student and teacher–student contact. If such virtual contact is to be effective in promoting social and academic integration, it clearly has to take a different form to the encouragement of social gatherings in on-campus teaching and learning.

9.3.4.3 Re-Envisaging Social and Academic Integration in the Online Context

The Tinto model contains separate tracks for social and academic integration. This makes perfect sense for on-campus students, particularly those who reside on or near campus, which was the case for most of the students in the American four-year college system, on which the research underlying the model was based. Social integration can be promoted through on-campus social activities which are not linked to academic ones, such as sports, university societies, student union activities or socialising with those in the same university residence. These social activities are not discipline specific, so a student could be socially integrated without any requirement of academic integration. Indeed, some students become so well socially integrated that it has a negative impact on their academic integration.

Efforts to promote academic integration for on-campus students are normally separate from the relatively informal social cohesion activities. Programs to promote academic integration are commonly discipline specific and involve academic staff, so feature teacher–student as well as student–student interaction. Academic integration activities typically include orientation, induction and study skills courses.

For online learning, though, the separation of social and academic integration in the manner of on-campus learning does not seem plausible. Social activities are not arranged for online students as they do not come on-campus to participate in them.

Study takes place in the home, so social activities are conducted with families and friends, rather than with other university students.

The Tinto model has been very influential and highly cited as a model of attrition, retention and success in higher education. A model of retention and success for online and blended learning would, therefore, be wise to be cognisant of the model and the constructs incorporated within it. However, the discussion in this section clearly indicates that the two-track discrete social and academic integration featured in Tinto's model does not seem applicable to online learning; it seems more likely that any integration which does take place either combines social and academic elements, or is an alternative form of integration which is predominantly or solely academic. Therefore, any adoption of the Tinto model in the online contexts would require adaptation and reformulation.

The conclusion chapter of this book (Chap. 20) attempts to tackle this adaptation. It draws together qualitative and quantitative evidence from throughout the book to synthesise an adapted model incorporating the tried and trusted constructs integral to the Tinto model. In this chapter the Tinto model is re-envisaged to reflect the characteristics of online and blended learning.

9.4 Literature on Online Student Attrition

It has been clearly established that attrition is higher from online learning than from on-campus study (Bawa, 2016; Carr, 2000; HESP, 2017; Kember et al., 2019; Levy, 2007; Tello, 2007). Influences from the mode of study are compounded by online learning being a key element of open learning (see Chap. 4). This permits the entry of a diversified student body, which face multiple associated challenges (see Chap. 5). Attrition rates from online learning can also be influenced by student support services being attuned to on-campus rather than off-campus students (see Chaps. 11 and 12 and Part III).

Reviews of the online attrition literature have been conducted by Bowles and Brindle (2017), Delnoij et al. (2020), Lee and Choi (2011), and Muljana and Luo (2019). Lee and Choi (2011) concentrated on empirical research about attrition from online courses. Their search identified 35 empirical studies from a period of 10 years: 1999 to 2009. Of these, 77% 'employed a correlational research design' (p. 596). The reviewers classified the articles by identifying dropout factors 'found to be statistically significant predictors of student dropout' (p. 603). There were three main categories: student factors, course/program factors and environmental factors.

The other three reviews also found that the body of research into attrition from online learning concentrated on looking for variables or factors which had a relationship with attrition; though the nature of the relationship was generally more varied than the correlations sought by Lee and Choi (2011). Again, the reviews largely found studies of factors acting individually, rather than as multivariate sets. Bowles and Brindle (2017) and Delnoij et al. (2020) used the same category schemes, derived from Carroll et al. (2009), to group the factors into three groups: situational,

dispositional and institutional. Delnoij et al. (2020) added a fourth category of demographic factors and divided the dispositional factors into cognitive and non-cognitive subcategories.

In terms of assessing the utility of this body of literature for providing an understanding of attrition from online courses, it should be noted that APA guidelines (American Psychological Association, 2010) require effect sizes to be given in correlational studies. As significance depends upon sample size, statistically significant correlations can be achieved, with even moderately large samples, despite there being limited relationships between variables. In such cases, the effect sizes can be small, so the findings are of limited utility in understanding attrition. This is consistent with the claim by Pascarella and Terenzini (1980) that their review of the research into attrition from face-to-face teaching had found that correlational studies had provided limited understanding of the drop-out process.

The literature on attrition from both on-campus and online learning testifies that it is not possible to predict attrition from student characteristics or other variables pertinent on entry to a course of study with any degree of acceptable statistical certainty or utility for designing support programs. Students are not predestined to fail to complete a course because of the characteristics on entry. Chapter 10 of this book shows that even sophisticated Structure Equation Modelling incorporating multiple variables from student record databases only explains a limited proportion of the variance. The whole of Part III of this book produces research which shows that retention and success in online and blended learning is a complex function of the many factors which come into play once courses of study commenced.

Contemporary reviews of the online attrition literature (Bowles & Brindle, 2017; Delnoij et al., 2020; Lee & Choi, 2011; Muljana & Luo, 2019) did not identify a linear process model of attrition specific to online learning, such as the Tinto model for on-campus learning. Lee and Choi (2011) noted that few studies had examined the inter-relationship between multiple dropout factors, despite of the clear evidence of attrition being a complex multivariate phenomenon. As the review did not locate any models of attrition specific to online learning, it drew upon the social and academic integration facets of the Tinto (1975) model as an underlying explanation for the complex process of attrition and persistence.

Lee and Choi's (2011) review also made frequent citations of the model of Kember (1995), which adapted the Tinto model for distance education. This review saw online learning as a form of distance education. At the time the Kember (1995) model was developed, the predominant form of instruction in distance education was through multi-media study packages, with print as the dominant medium, delivered through the post. The advent of the internet has seen distance education shift to online learning.

The Kember (1995) model of persistence and attrition from distance education was developed as a two-track model including a positive and a negative track. The positive track contained factors that led to high levels of both social and academic integration. The negative track indicated lower levels of integration. The model contained a cost/benefit analysis step in which the student periodically weighed the benefits and

costs of continuing to study. At this stage a decision could result in either dropping-out or continuing study. If the latter, a recycling loop led to another passage through the cycle, usually with the characteristics and variables somewhat changed. If the results of the cost/benefit analyses continued to show positive benefits, a student will eventually complete the course.

There are three studies which attempt to model attrition from online learning which were not included in the Lee and Choi (2011) review, because they were either outside of the reviewed time period or presumably did not fit into the inclusion criteria. Subotzky and Prinsloo (2011) developed a model based on critical theory. The model included constructs like capital, habitus and situated agency. Simpson (2013) reviewed the literature on student support in distance and online learning to show how forms of student support can enhance persistence. Marks et al. (2005) developed a path-model of online learner progression, which shows that instructor-student, student-student and student-content forms of interaction were predictors of successful online learning.

There is also recent work using learning analytics from learning management systems (e.g. Calvert, 2014; Cochran et al., 2014; Conijn et al., 2017; Tempelaar et al., 2015). As this work has been relatively recent it is not yet clear whether research based on learning analytics will be able to contribute to producing theoretical frameworks which deepen understanding of student behavior in the way that models like that of Tinto have done for conventional college education. One issue of significance is agency. If online students choose to engage with or not engage with an instructional feature or activity, it is usually not clear from the analytics why this is the case.

It is commonly agreed upon that drop-out is a complex multivariate phenomenon. The most fruitful attempts to explain the phenomenon have been through the development of models which take into account processes which occur during the course of study. The most influential of these has been that of Tinto's model for attrition from on-campus study (1975, 1987), which argues that persistence is more likely if students are able to achieve social and academic integration.

The way these constructs have been measured in research studies and operationalised in induction and orientation programs has been largely through measures of the degree and quality of face-to-face contact, such as student-student and tutor-student interaction. Researchers into online learning do not appear to have found it easy to translate the measures or constructs into the online medium (Bowles & Brindle, 2017; Delnoij et al., 2020; Lee & Choi, 2011; Muljana & Luo, 2019). However, the literature in drop-out from online learning did recognise the explanatory power of Tinto's model and a model of attrition from distance education and open learning courses which attempted to incorporate the principal constructs of Tinto's model (Kember, 1995).

9.5 Student Engagement

The Tinto model has inspired the literature on student engagement (Trowler, 2010) and the first-year experience (James et al., 2010; Kuh et al., 2008), positing the importance of promoting student engagement as an initial step towards enhancing social and academic integration. This section, therefore, contains a brief review of aspects of student engagement which are pertinent to attrition from online and blended learning. This part of the review is highly selective, as the literature on student engagement and the first-year experience is enormous but much of it focuses on promoting engagement through on-campus student–student and teacher-student interaction. Of the literature on online student engagement, the review by Hew and Cheung (2012) suggests that much of the research focuses on engagement as an end, rather than as an initial step towards integration into a learning community, as is discussed in the next section.

Student engagement is heterogeneous in nature (Trowler, 2010). This is reflected in some of the definitions. For instance, Axelson and Flick (2010) specifies that student engagement concerns “...how involved or interested students appear to be in their learning and how connected they are to their classes, their institutions, and each other” (p. 1), reflecting both social and cognitive aspects of learning. Other scholars have also tackled student engagement from the behavioural (Fan et al., 2021), cultural (Hess et al., 2007), and emotional aspects (Ahn & Davis, 2020; Bensimon, 2009). For instance, research of Ahn and Davis (2020) identified two other domains of students’ sense of belonging: surroundings and personal space, in addition to Tinto’s domains of academic and social integration.

Engagement models and frameworks have also been built and adapted to explain student engagement. An earlier one is Moore’s (1973, 1989) model, which emphasises the importance of developing independent learners (Moore, 1973). It revolves around the interactions between the three key elements in the learning process: the learner, the instructor, and the content (Moore, 1989). It suggests that each element plays a distinct role in the learning process (Moore & Kearsley, 2011). Extending on this point, Moore (1989) named the three types of interactions as: learner-content, learner-instructor, and learner-learner interactions. Moore’s theory is recognised as one of the earliest frameworks exploring student engagement and its influential factors.

Another influential engagement model is the Community of Inquiry (CoI) framework developed by Garrison, Anderson and Archer (2000, 2010). This framework was developed based on text-based discussions in computer conferencing and involves three interrelated elements: cognitive, teaching and social presence. The CoI framework is relevant and useful in informing the discussion in this book, given its focus on the online environment and online community building. Although, it is recognised that, the student cohort described in this book may be a more diverse student population as described in the original CoI framework. For instance, the current students are online and blended students studying undergraduate courses.

They entered their courses following the adoption of a contemporary model of admission and course delivery (see Chaps. 4–7). Compared to the postgraduate students in the study of Garrison et al. (2000), the current students are a more diversified intake with varies learning needs. They are also exposed to a wider range of online tools through a learning management system, which means their study patterns appear in more diverse ways, both synchronous and asynchronous, and both social and independent. Therefore, it is anticipated the discussions in this book will add further insights to existing student engagement model, regarding influential factors on the engagement and retention of the current and diverse student population.

9.6 Integration and Student Engagement

It is instructive to consider the distinction between integration into learning communities and student engagement. Tinto's model (1975, 1987, 1993) provided evidence that retention could be enhanced if social and academic integration could be achieved. The term student engagement does not appear in Tinto's model.

The movement to promote student engagement developed from the formulation of the Tinto model (Trowler, 2010). As it had been established that attrition could be reduced if social and academic integration could be achieved, programs and measures were introduced to help promote integration. As attrition normally occurred early in a course of study, these programs were commonly mounted at or near the start of courses, so have commonly been reported in the first-year experience literature (e.g. James et al., 2010; Kuh et al., 2008). At the time of these initiatives, higher education was predominantly on-campus, so the programs mounted took place on campus. The aim was to promote student–student and teacher–student interaction, which might be expected to promote the formation of social ties, which, in time, could result in social and academic integration.

The original form of student engagement clearly cannot be applicable to distance education or online learning, as students do not normally come on campus, and it is not realistic to organise face-to-face meetings to promote social interaction. For online learning, the term student engagement appears to have become transcribed into whether individual students engage with the learning materials by completing online activities or posting on discussion forums (see Hew & Cheung, 2012, for a review). This form of engagement is a concern for online teachers. Activities are normally placed within learning materials to promote active learning. Busy online students, though, can opt to reduce workload by restricting activities to work which is assessed. There are also students, known as lurkers, who are content to read and learn from the posts of others without themselves contributing. As there is a belief that active learning is superior, there is a substantial body of research dedicated to strategies for encouraging students to engage actively online (see Hew & Cheung, 2012, for a review). Encouraging student engagement, therefore, becomes an end in itself, rather than a step towards integration. This debased form of student engagement in online

learning does not, therefore, act as a mechanism for promoting social and academic integration, so is not a mechanism for reducing attrition.

The distinction between integration and engagement can also be considered in terms of the temporal dimension. With online students, student engagement is often a short-term effect. Inactive students can be persuaded by an intervention to complete an activity or subject. Where there is no integrative mechanism, though, the effect can be temporary. Integration into learning communities can be a longer-term phenomenon. It takes time and effort to build the community, but it then can be a lasting phenomenon, as an integrative mechanism has been employed. Student engagement might be useful as a step towards integration but will have limited impact on retention and success if it is envisaged as an end in itself.

9.7 Identifying the Gap in the Literature

Early research into attrition from face-to-face higher education concentrated on examining the relationship between variables related to pre-enrolment characteristics and attrition. This line of research did not prove fruitful, as it was found that pre-enrolment characteristics could not predict attrition with any degree of statistical or practical utility (Pascarella & Terenzini, 1980). It was, therefore, recognised that attrition was a complex multivariate phenomenon which was dependent upon factors which came into play as the course of study progressed. Factors such as the nature of teaching and learning, the educational environment, the quality of student support services and student motivation have been found to be much more significant than pre-enrolment characteristics (Pascarella, 1982).

Attention then turned to the development of models which reflect this understanding. Linear process models took prominence, of which that of Tinto has been the most highly cited (Engstrom & Tinto, 2008; Tinto, 1975, 1987, 1993, 2012, 2015). Tinto's model included academic and social integration components as mechanisms to incorporate students into the college community, which reduce the tendency towards attrition. For on-campus teaching and learning, academic and social integration has been operationalised through direct student–student and teacher–student interaction.

The gap in the literature is that no equivalent longitudinal process model has been developed for online and blended learning. An obvious barrier to translating the model, akin to that of Tinto, to online learning is that the interaction mechanism has relied on direct student–student teacher–student interaction. Online learning normally has no direct interaction, so lacks this integrative mechanism.

The challenge, which is addressed in Part III of the book, is the development of a model of retention and success applicable to online and blended learning. As the Tinto model has been so successful and highly cited, it is clearly appropriate to use it as a theoretical foundation. However, the nature of social and academic integration needs to be re-envisaged into a form consistent with the characteristics of online learning.

References

- Ahn, M. Y., & Davis, H. H. (2020). Four domains of students' sense of belonging to university. *Studies in Higher Education, 45*(3), 622–634.
- American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th edition). American Psychological Association.
- Axelson, R. D., & Flick, A. (2010). Defining student engagement. *Change: The magazine of higher learning, 43*(1), 38–43.
- Bawa, P. (2016). Retention in online courses: Exploring issues and solutions—A literature review. *SAGE Open, 6*(1), 1–11. <https://doi.org/10.1177/2158244015621777>
- Bensimon. (2009). MISSING.
- Bowles, T. V., & Brindle, K. A. (2017). Identifying facilitating factors and barriers to improving student retention rates in tertiary teaching courses: A systematic review. *Higher Education Research & Development, 36*(5), 903–919. <https://doi.org/10.1080/07294360.2016.1264927>
- Calvert, C. (2014). Developing a model and applications for probabilities of student success: A case study of predictive analytics. *Open Learning: The Journal of Open, Distance and e-Learning, 29*(2), 160–173. <https://doi.org/10.1080/02680513.2014.931805>
- Carr, S. (2000). As distance education comes of age, the challenge is keeping the students. *Chronicle of Higher Education, 46*(23), 39–42.
- Carroll, D., Ng, E., & Birch, D. (2009). Retention and progression of postgraduate business students: An Australian perspective. *Open Learning: The Journal of Open and Distance Learning, 24*, 197–209.
- Cochran, J. D., Campbell, S. M., Baker, H. M., & Leeds, E. M. (2014). The role of student characteristics in predicting retention in online courses. *Research in Higher Education, 55*(1), 27–48. <https://doi.org/10.1007/s11162-013-9305-8>
- Conijn, R., Snijders, C., Kleingeld, A., & Matzat, U. (2017). Predicting student performance from LMS data: A comparison of 17 blended courses using Moodle LMS. *IEEE Transactions on Learning Technologies, 10*(1), 17–29. <https://doi.org/10.1109/TLT.2016.2616312>
- Delnoij, L. E. C., Dirkx, K. J. H., Janssen, J. P. W., & Martens, R. L. (2020). Predicting and resolving non-completion in higher (online) education—A literature review. *Educational Research Review, 29*, 100313.
- Durkheim, E. (1951). In J. A. Spaulding & G. Simpson, (Trans.), *Suicide*. The Free Press.
- Engstrom, C., & Tinto, V. (2008). Access without support is not opportunity. *Change: The Magazine of Higher Learning, 40*(1), 46–50. <https://doi.org/10.3200/CHNG.40.1.46-50>
- Fan, S., Chen, L., Nair, M., Garg, S., Yeom, S., Kregor, G., & Wang, Y. (2021). Revealing impact factors on student engagement: Learning analytics adoption in online and blended courses in higher education. *Education Sciences, 11*(10), 608.
- Fisher, S., Murray, K., & Frazer, N. A. (1985). Homesickness, health and efficiency in first year students. *Journal of Environmental Psychology, 5*(2), 181–195.
- Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education, 2*(2–3), 87–105.
- Garrison, D. R., Anderson, T., & Archer, W. (2010). The first decade of the community of inquiry framework: A retrospective. *The Internet and Higher Education, 13*(1–2), 5–9.
- HESP, (2017). *Improving retention, completion and success in higher education, higher education standards panel discussion paper* (Canberra: Australian Government).
- Hess, D. J., Lanig, H., & Vaughan, W. (2007). Educating for equity and social justice: A conceptual model for cultural engagement. *Multicultural Perspectives, 9*(1), 32–39.
- Hew, K. F., Cheung, W., & S. (2012). *Student participation in online discussions: Challenges, solutions, and future research*. Springer.
- James, R., Krause, K.-L., & Jennings, C. (2010). *The first year experience in Australian universities: Findings from 1994 to 2009*. Centre for Studies in Higher Education, University of Melbourne.

- Kember, D., Leung, D., & Prosser, M. (2019). Has the open door become a revolving door? The impact on attrition of moving from elite to mass higher education? *Studies in Higher Education*. <https://doi.org/10.1080/03075079.2019.1629411>
- Kember, D. (1989). A longitudinal-process model of drop-out from distance education. *The Journal of Higher Education*, 60(3), 278–301.
- Kember, D. (1995). *Open learning courses for adults: A model of student progress*. Educational Technology Publications.
- Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *Journal of Higher Education*, 79(5), 540–563.
- Lee, Y., & Choi, J. (2011). A review of online course dropout research: Implications for practice and future research. *Educational Technology Research and Development*, 59, 593–618.
- Levy, Y. (2007). Comparing dropouts and persistence in e-learning courses. *Computers and Education*, 48(2), 185–204.
- Marks, R. B., Sibley, S. D., & Arbaugh, J. B. (2005). A structural equation model of predictors for effective online learning. *Journal of Management Education*, 29(4), 531–563. <https://doi.org/10.1177/1052562904271199>
- Moore, M. G. (1973). Towards a theory of independent learning and teaching. *Journal of Higher Education*, 44(9), 661–679.
- Moore, M. G. (1989). Three types of interaction. *American Journal of Distance Education*, 3(2), 1–7.
- Moore, M. G., & Kearsley, G. (2011). *Distance education: A systems view of online learning*. Cengage Learning.
- Muljana, P. S., & Luo, T. (2019). Factors contributing to student retention in online learning and recommended strategies for improvement: A systematic literature review. *Journal of Information Technology*. digitalcommons.odu.edu.
- Pascarella, E. T., & Terenzini, P. T. (1980). Predicting freshman persistence and voluntary dropout decisions from a theoretical model. *The Journal of Higher Education*, 51(1), 60–75.
- Pascarella, E.T. (Ed.) (1982). *Studying student attrition*. Jossey-Bass.
- Perry, W. G. (1970). *Forms of intellectual and ethical development in the college years*. Holt, Rinehart and Winston.
- Perry, W.G. (1988). Different worlds in the same classroom. In P. Ramsden (Ed.), *Improving learning: New perspectives*. Kogan Page.
- Qvortrup, A., & Lykkegaard, E. (2022). Study environment factors associated with retention in higher education. *Higher Education Pedagogies*, 7(1), 37–64.
- Simpson, O. (2013). *Supporting students for success in online and distance education*. Routledge.
- Spady, W. (1971). Dropouts from higher education: Toward an empirical model. *Interchange*, 2, 38–62.
- Subotzky, G., & Prinsloo, P. (2011). Turning the tide: A Socio-critical model and framework for improving student success in open distance learning at the University of South Africa. *Distance Education*, 32(2), 177–193.
- Tello, S. F. (2007). An analysis of student persistence in online education. *International Journal of Information and Communication Technology Education*, 3(3), 47–62.
- Tempelaar, D. T., Rienties, B., & Giesbers, B. (2015). In search for the most informative data for feedback generation: Learning analytics in a data-rich context. *Computers in Human Behavior*, 47, 157–167. <https://doi.org/10.1016/j.chb.2014.05.038>
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89–125. <https://doi.org/10.3102/00346543045001089>
- Tinto, V. (1987). *Leaving college*. University of Chicago Press.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). University of Chicago Press.
- Tinto, V. (2012). Enhancing student success: Taking the classroom success seriously. *The International Journal of the First Year in Higher Education*, 3(1), 1–8.

- Tinto, V. (2015). Through the eyes of students. *Journal of College Student Retention: Research, Theory & Practice*. 1521025115621917.
- Trowler, V. (2010). *Student engagement literature review*. (HEA Report 11) Retrieved from The Higher Education academy website: https://www.heacademy.ac.uk/system/files/StudentEngagementLiteratureReview_1.pdf
- Van Gennep, A. (1960). In M. Vizedom & G. Caffee (Trans.), *The rites of passage*. Routledge & Kegan Paul.

Chapter 10

Modelling Retention and Success in Traditional and Contemporary Universities



David Hicks , Doris Y. P. Leung , and Michael Prosser 

Abstract As higher education has made the transition from elite to mass enrolments, the student body has become more diverse and online and blended learning have become more common. This study aimed to examine the impacts on attrition of admitting a more diverse student body with the shift towards online and blended learning. The study compared models for universities at the traditional and contemporary ends of the spectrum, with respect to admission and course delivery. The hypothesised model for the contemporary university contained four presage variables related to the changed demographic of the student body and alternative modes of study: attendance mode, admission basis, remoteness and socio-economics status. There were two intervening variables: age and year of study. The three outcome variables were dropout, GPA value and proportion of units completed. Both models were tested against large samples of data from student record systems. The models showed a good fit to the data, predicting that the expansion of higher education, along with the increasing use of online and blended learning, will impact on attrition but the impact on GPA value and proportion of units completed are expected to be limited. The final model for the traditional university was simpler than that for the contemporary one; in particular it did not contain a variable for mode of study, as the only available mode was on-campus study. There were also fewer paths between variables, indicating the increased complexity of the contemporary model. The limitations of the models tested in this chapter was that variables included in the model were restricted to those readily available from the student records database. The models, therefore, included student characteristics on enrolment, but not constructs pertinent to teaching, learning and support during the course of study.

D. Hicks (✉)

Faculty of Education, University of Tasmania, Launceston, TAS, Australia
e-mail: david.hicks@utas.edu.au

D. Y. P. Leung

School of Nursing, The Hong Kong Polytechnic University, Hong Kong, China
e-mail: doris.y.p.leung@polyu.edu.hk

M. Prosser

Centre for the Study of Higher Education, University of Melbourne, Melbourne, VIC, Australia
e-mail: mike.prosser@unimelb.edu.au

10.1 Introduction

As higher education has made the transition from elite to mass enrolments, the student body has become more diverse and online and blended learning have become more common. The study outlined in this Chapter aimed to examine the impacts on attrition of admitting a more diverse student body with the shift towards online and blended learning. The study compared models for universities at the traditional and contemporary ends of the spectrum, with respect to admission and course delivery (see Chap. 4).

10.2 Changing Models of Higher Education

The Introduction chapter introduced the use of structural equation model (SEM) as a quantitative method appropriate to test hypothesized multivariate models representing sophisticated complex phenomena such as those discussed in this book. The quantitative modelling phase of this study aims to model the impact of admission policies and practices on the success of low SES students and other students who might not have entered university before the substantial increase in enrolments and the diversification of the student body which followed the inception of the massification of higher education. To do this it is necessary to hypothesise models which incorporate pertinent variables and constructs.

This chapter, therefore, commences with a discussion of the most significant changes as there has been a move from elite to mass higher education. The changing nature of the student body to a more diverse cohort clearly needs to be factored into the models. The greater diversity has necessitated changes to the way teaching and learning takes place, which is the other main concept which hypothesised models need to embrace.

10.2.1 *A More Diverse Student Body*

The agenda for social equity was advanced because universities constituted an elite higher education system. The large majority of students conformed to ‘traditional’ characteristics (Trow, 1973, 2005). Entry to university was largely restricted to those who had performed well at high school. Most students entered university either directly from high school or soon after completion. The students were, therefore, mostly in their late teens or early 20s. Few had families to care for. As this was an elite system, the students tended to come from families with above average income who could afford to support the students while completing their degree. At this time, grants were more common than fees. In the UK, for example, there were no fees and means-tested grants were a right. The students’ parents were themselves

commonly well educated, so the students usually came from backgrounds in which higher education was a reasonable expectation and known commodity.

Expanding the entry to higher education has necessitated admitting those with results from their school education which would not have permitted entry to an elite system. Alternate entry schemes giving credit for characteristics such as mature age and professional experience have become commonplace. Entry standards vary considerably between universities and between courses and programs within universities. There are, although, now opportunities for university entry for many who would not have been admitted in the past.

As entry directly from high school is no longer the standard entry path, the age range of students has widened considerably. Many have family responsibilities. A lot are in the workforce and many of these students cannot afford to give up work. In most countries, students are now required to pay tuition fees, even if there are loan or deferred payment schemes.

10.2.2 Adapted Modes of Teaching and Learning

In the time of elite higher education, on-campus study was the norm. The large majority of students studied full-time. Most students spent term time living on campus, in nearby rented accommodation, or living in the family home.

Low Socio-Economic Status (SES) typically involves multiple intersections of disadvantage that present complex barriers to living and working in a university environment. According to the Australian Productivity Commission report (2019) low SES students in the expanded intake are more likely to: have been admitted through alternative entry modes; study remotely; study part-time; study online or through blended learning; have family and work commitments; be mature students; and are less likely to have parents educated at a tertiary level. For the more diverse student body many are unable to attend on-campus classes or prefer the greater flexibility of online or open forms of learning. Students from low SES backgrounds are often unable to commit to full-time study (Bowl & Bathmaker, 2016). Work, family, social and other commitments (House-Peters et al., 2017), rurality and travel distances (Corbett, 2007), access to financial aid (Qayyum & Zawacki-Richter, 2018), and opportunity costs present barriers to relocation on or near a university campus.

The alternative modes of study involve some variants of online or blended learning. Today, the predominant mode of distance study is some variant of online learning. Indeed, all tertiary study in advanced societies involves both a choice of modes of study (Bailey et al., 2018), as well as some blending of different modes of virtual and on-campus learning (Keengwe, 2018). This change toward more online and blended learning is not necessarily a good fit for students without family and friends nearby, ideally possessing higher education experience that enables “insider” advice (Devlin & McKay, 2018).

Many students now are unable to commit to full-time study. Mature entrants commonly have work and family commitments. Many school leavers need some level of employment to support themselves. Part-time study has, therefore, become common. Many students taking a full-time load now have some degree of part-time employment to make ends meet (Allen & Farber, 2018), while some work full-time, taking as many units as they can manage (James et al., 2010). Indeed, the dichotomous enrolment classification of full- and part-time students has become of questionable relevance.

10.2.3 Modelling Admission and Success

The process of quantitative modelling requires that models are hypothesised and then tested for goodness of fit against a set of suitable data. The design of the models for this study has been restricted to variables readily available in university student record systems. There are two main reasons for this.

Firstly, the aim has been to enable universities to make use of the large volume of information which is readily available. Incorporating variables from student record systems, in a multivariate model, shows how student characteristics and mode of study interact together to influence outcomes. The models should enable universities to understand how policy decisions relating to student admissions and mode of teaching and learning will impact on the success of their students.

Secondly, building models which incorporate variables which more fully characterise the longitudinal process involved in the journey from enrolment to dropout or graduation is a major program of research, well beyond the scope of this one-year study. There are longitudinal process models of attrition and success, but they were developed based on research on US four-year college students before the turn of the century (Bean, 1980, 1983; Spady, 1971; Tinto, 1975, 1987, 1993). These models, therefore, take into account neither the more diverse student intake nowadays nor the adaptations to modes of teaching and learning.

To develop more contemporary models would need initial qualitative studies to identify and characterise pertinent factors which impact on the diverse student body as they attempt to adapt to blended and online learning. From these qualitative understandings, quantitative instruments would need to be built to validly and reliably measure the identified factors. Data gathered from these instruments could then be tested in more refined models.

Such models should explain a lot more of the variance than models relying on student record data. It is important that this more sophisticated modelling track is pursued in the future, as it will provide a much better understanding of how to provide support to the diverse student body to adapt to blended and online learning to enhance their chances to succeed, rather than dropout. Part III of this book has pursued this path to produce a model of retention and success, showing how online and blended learners can be supported by their teachers.

The study reported in this chapter serves as one of the first few steps in developing a comprehensive, multivariate model of factors influencing retention and success in university students from a more diverse characteristics. The models based on information available in student record systems will help universities better understand the information they have to hand by showing how pertinent variables act in concert to influence success. They will show the impact of the student characteristics of the more diverse body and more flexible modes of study, particularly off-campus modes. However, they will be limited in terms of explaining how blended and online learning can best be configured to enable the diverse intake to cope with them. They may also provide limited help in suggesting how support can be provided to help students adapt to blended and online learning; a form of learning most will not be familiar with.

10.2.4 Three-Phase Model of Contemporary Higher Education

The hypothesised model of contemporary higher education builds upon the two transitions to form a three-phase model. The first presage phase involves variables pertinent on entry. These are variables relating to student characteristics and to study mode options. The second intermediate phase contains variables which come into play as the study proceeds. The final phase consists of outcome variables.

The model starts with a set of presage variables relating to the characteristics of the more diverse intake and the alternative modes of study which are now available. Firstly, variables pertinent to entry characteristics are considered. An important rationale for the expanded intake has been social equity; it is, therefore, necessary to include SES. Entry qualifications and basis of admission are clearly of relevance, given the major expansion of the intake. Remoteness is predominantly a student characteristic, but is also related to study mode, as many study off campus.

Proportion of full-time load is the first variable related to mode of study. Many students now study by modes other than on-campus teaching, such as online or blended learning; so mode of study is the other presage variable.

Arguments could be made for both remoteness and proportion of full-time load being relevant to both student characteristics and mode of study. There are also cross influences. For example, proportion of full-time load will be influenced by many student characteristics. These relationships and cross influences for the presage variables are shown in the model as intercorrelations.

There are then two intermediate variables. The age range of students has widened, so age or maturity is a relevant variable. Age or maturity has been shown to compensate, in some cases, for relatively poor entrance scores by enhanced motivation; more mature students are more likely to display a deep approach to study, which is

consistent with academic achievement (Jelfs & Richardson, 2013; Ke & Xie, 2009; Richardson, 1994, 2013; Richardson & King, 1998). Year of study will also be included in the model as attrition is more common early in the degree, which is why the first-year experience has been seen as so important (James et al., 2010).

The model then needs measures of outcome. As a significant proportion of students drop out, an outcome measure has to be of dropout. It also seems worthwhile including GPA, as a measure of both academic achievement and failure to complete courses. The third outcome variable is the proportion of subjects successfully completed.

The variables in the hypothesized model are listed below. They are arranged in three phases: presage, intermediate and outcomes.

Presage variables

- SES
- Basis of admission
- Remoteness
- Proportion of full-time load
- Mode of study

Intermediate variables

- Age
- Year of study

Outcome variables

- GPA
- Drop-out
- Proportion of subjects successfully completed

Explanations of how all of these variables are defined and measured are given later in this chapter.

10.2.5 Hypothesised Model

As attrition is a complex multivariate phenomenon, the study aimed to form the variables into a model which could be tested by structural equation modelling (SEM). The hypothesised path model for contemporary higher education is shown in Fig. 10.1.

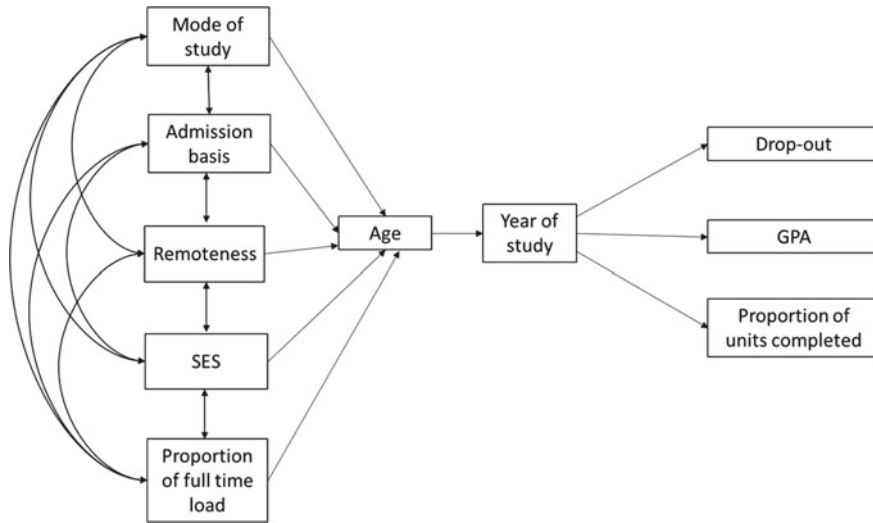


Fig. 10.1 The base hypothesised model

10.2.6 *Spectrum from Traditional to Contemporary Enrolment and Course Delivery Models of Higher Education*

Formulating the hypothesised modelling as a spectrum with traditional and contemporary ends, provides a conceptual framework, outlined in detail in Chap. 4, which underpins much of this study. As discussed, the position of a university on the spectrum is a function of the modes of teaching and learning it offers. It relates to admission policies and practices, which are interconnected with degrees of flexibility and teaching and learning. The combination of degrees of flexibility in teaching and learning and admission policies and practices influences the ability to attract an enlarged and more diverse student body and contribute to equity agendas.

10.2.6.1 Discussion of the Spectrum of Models

The position a university chooses to adopt on the traditional to contemporary model is related to its mission. Universities with similar missions tend to be classified in the same institutional typologies or groupings; so the ordering on the spectrum relates closely to these typologies.

Universities with missions to cater for more diverse equity groupings will position themselves closer to the contemporary end of the spectrum. Examples would be universities which cater for rural and regional communities and those with high proportions of low SES or indigenous students in their catchment areas.

The conceptual framework of the traditional to contemporary spectrum was derived in conjunction with the SEM analysis. It was a part of formulating the hypothesised models. The spectrum also played a role in interpreting the final models.

The models were formed from variables in the undergraduate student record databases. The data for the testing of the models came from these databases. The focus of the traditional to contemporary spectrum models is, therefore, on admission, retention and success and related variables, as reflected in student data. The descriptors may not be relevant to other aspects of the universities.

10.2.6.2 Positions on the Spectrum

The two universities for discussion in this Chapter were selected because they have contrasting roles and missions and, therefore, can be placed at different positions on the spectrum. The models for the two universities are, therefore, likely to differ. The models for each of the two universities will, therefore, be tested separately.

The demographic characteristics of the two chosen universities, the Universities of Melbourne—traditional—and Tasmania—contemporary, are described in Chap. 4. Their justification as traditional and contemporary are also discussed in Chap. 4.

10.3 Method for the Quantitative Modelling

10.3.1 Variables and Database

The databases used for the study were the universities' student record systems. Some variables, such as GPA, were taken directly from the databases. Others such as mode of study, SES and remoteness took the entry in the database and coded a numerical variable suited to the SEM analysis.

Mode of study was based upon the proportion of units a student had enrolled in, which were classified by the participating universities as either online or on-campus. Students were classified into 3 groups: on-campus if 75% of units were taken on-campus, online if 75% of units were taken online, and mixed for the remainder. This variable was treated as a continuous variable as it was coded as 1 = online, 2 = mixed, and 3 = on-campus, showing an increasing ordering in the extent of direct instructor-student contact.

Basis of admission score was used as a measure of entry qualifications which was based upon an ordering of admission categories from completion of secondary education to less formal qualifications. The admission categories are used by admissions officers in a hierarchical manner. Admission officers choose what they consider to be the highest ranked type of qualification the student has and admit the student according to that admission category. Highest in the hierarchy are the highest ranked

formal qualifications; lowest are informal experience-based qualifications. In view of this hierarchical coding, it was reasonable to treat the variable as continuous.

The remoteness index is a measure of the remoteness of students' term address, calculated based on an analysis of postcodes using the Accessibility/Remoteness Index of Australia (ARIA+), which is the official Australian measure of remoteness. A high proportion of the Australian population is concentrated in a small number of major cities. At the other extreme of remoteness and population density are vast areas with very few residents. The ARIA+ index reflects this demographic position, by being a five point scale ranging from Major City to Very Remote. That is, higher scores in the remoteness index indicate higher levels of remoteness.

Socio-economic status (SES) is a measure of wealth and social status. In Australia it is calculated for defined geographical areas (SA1), using sets of weighted measures from census data. The measure of socio-economic status used in this study was the ABS Index of Education and Occupation (IEO) which takes into account the level of education, whether further education is being undertaken, employment / unemployment, and the distribution of occupations based on the Australian and New Zealand Classification of Occupations within a given area. Coding was in terms of the three categories of low, medium, and high, which appears to have become the standard way of reporting SES in Australian higher education.

The two intervening variables are age and year of study. Values for these were taken directly from the student record database. Year of study is the number of years since enrolment.

The grade point average (GPA) is based upon the student's average grade point in their units of study, weighted by the credit weighting of each unit of study. GPA scores range from 0 to 7. A student who dropped out from, or failed, every unit would receive a GPA of 0. A student with a high distinction grade in every unit would have a GPA of 7. GPA can, therefore, be interpreted as a measure of academic success.

The Dropout variable is based upon whether the students dropped out during the year of the analysis, so were not included in the subsequent year's enrolment file. The other two categories were for continuing students or those who had completed their studies. The variable has three categories, therefore, constitute a continuous variable.

Proportion of units completed is effectively a measure of a student's progress through the degree in which they are currently enrolled. To control for differences in the number of units required to successfully complete a given degree both within and between institutions, this was calculated as the ratio between the total credit points required to successfully complete the degree within which the student was enrolled, and the number of credit points the student had achieved towards this at the point in time that the sample was taken.

10.3.2 Structural Equation Modelling

This study used structural equation modeling (SEM), a statistical technique which can be used to examine complex patterns of interactions between many variables in real-life phenomena. Chapter 1 provides an introduction to SEM. The goal of SEM is to determine the extent to which a theoretical model is supported by the sample data collected to test a set of hypotheses (Schumacker & Lomax, 1996). In SEM, if the theoretical model is not supported by the sample data, the original model can be modified and then tested again or alternative theoretical models can be posited, developed, and then tested. An attractive feature of SEM is its ability to consider simultaneous equations with multiple variables in addition to the recognition of the importance of accounting for measurement error (Bollen & Long, 1993). Another attractive feature of SEM is its use of diagrammatic representations to present the models that are being tested. This makes it possible to communicate findings to non-specialists, in forms which are readily comprehensible. Data for SEM commonly comes from questionnaires, which involve Likert type responses to items, or from existing databases.

There are very significant advantages to the SEM approach, as it will produce far more evaluative and diagnostic information than a conventional test of the power of an intervention. Firstly, SEM uses tests of how well the data fits the model to assess the effectiveness of the combined contributions of all the elements included in the tested model. Secondly, the standardised coefficients of the final tested model give an indication of the causal contribution of each element of the model. In the case of the model hypothesised in this study, there will be a test of how each element of the model impacts upon each of the measures of outcomes.

10.3.2.1 Tests of Models

The hypothesised path models were tested to assess the goodness of fit of the hypothesized model. Path analyses were performed by the EQS 6.0 package (Bentler, 2006) and with Stata (StataCorp, 2017), using the maximum likelihood estimation with a robust procedure to adjust for the non-multivariate normality of the data (Satorra & Bentler, 1994).

Assessment of goodness of fit of the model to the data was based on three fit indices: (a) robust Comparative Fit Index (R-CFI), (b) standardised root mean squared residuals (SRMR), and (c) robust root mean square error of approximation (R-RMSEA). The level of fit is determined by whether values for fit indices exceed cut-off values in the literature. R-CFI shows whether the model has a good fit to the data, and has an accepted threshold values of R-CFI > 0.90 for a good fit to the data. SRMR and R-RMSEA are measures of the degree of error in a model. A good fit is, therefore, indicated if values are lower than the threshold with SRMR < 0.08, and R-RMSEA < 0.06 (Hu & Bentler, 1999).

One of the output from SEM, Modification Indices (MI) indicates whether the fit of the model could be improved by adding paths. The baseline models were all tested and then MIs calculated to see whether improvements could be made. Following the recommendation, modifications to the hypothesised model would be accepted only if they are theoretically plausible.

10.3.3 Discussion of Models in the Spectrum

The main purpose of the discussion sections is, firstly, to discuss the model as a whole and how it can inform our practice. The second main purpose is to consider the variables within the model and their relationship to other parts of the model. The aim is to interpret how the various parts of the model inform understanding of the attrition processes of retention and success. As the models are composed of variables relevant to the transition between elite and mass higher education, there should be insights into how the advent of mass higher education has impacted on retention and success.

10.4 The University of Tasmania (UTAS): A Contemporary Model for a Regional University

10.4.1 Sample

The sample for the study was undergraduate students enrolled in courses in: arts, business, education, health sciences and science. The sample excluded students doing a one-year end-on Honours degree, as they had already completed a three-year undergraduate degree and would not, therefore, be typical of undergraduate students.

The four bachelor degree programs were chosen as disciplines which have a good mix of students studying on-campus and online, including those remote from any of the campuses. Entry was through a variety of admission modes, indicating that the intake consisted of non-traditional entrants together with school leavers with a tertiary entrance score. There was a significant proportion of mature students. International students were excluded, as with the other three universities.

The total sample for UTAS in the study was $N = 8911$, after those with incomplete records were deleted.

10.4.2 Model Testing

The covariance matrix of the variables in the hypothesised model computed from the data of the 8911 students were submitted for analysis. The fit indices for the baseline hypothesised model suggest an inadequate fit to the data (R-CFI = 0.887, SRMR = 0.075, and R-RMSEA = 0.192).

Based on the multiple MI tests, three paths were added to the model:

- proportion of full-time load to proportion of units completed
- proportion of full-time load to year of study
- proportion of full-time load to dropout.

The refined model was then re-estimated. The results of the standardized parameter estimates of the refined model using admission basis are shown in Fig. 4.1. A good fit of the model to the data is supported by R-CFI = 0.932, SRMR = 0.055, and R-RMSEA = 0.055. All the paths in the refined model were statistically significant except the path from year of study to proportion of units completed. The proportions of the variation explained by the model (R^2) for drop-out was 0.116, for proportion of units completed it was 0.012, and for GPA it was 0.001 (Fig. 10.2).

10.4.3 Overall Model

As reported in the section above labelled ‘Model testing’, the final model shows a good fit to the data. The model was based on a literature review, discussed at length in the previous chapter, of the changes which have occurred in the student body and the mode of instruction following the transition from elite to mass higher education. The good fit of the overall model, therefore, suggests that the combined effect of the changes from elite to mass higher education, as represented by the interactions between variables in the model, will have an impact on the outcome variables. Of the three outcome variables, the model best predicts dropout. The path from year of study to dropout has a much larger standardised coefficient than that to the other two outcome variables. Proportion of units completed has a direct path from proportion of full-time load.

The model is much better at explaining attrition than academic performance, as measured by GPA. Attrition is more influenced by personal circumstances and factors related to mode of study, than is academic performance.

Retention and success need to be treated as a complex multivariate phenomenon. Many variables act in concert to impact on outcomes. Even the model in this study is an oversimplification, as the variables included in the model were restricted to those commonly available in student record systems. The most prominent omission is that the influence of teaching and learning is not factored in.

The other point to be made is that the final model reinforces the validity of hypothesising the phenomenon as a path model. The intermediate variables do play an

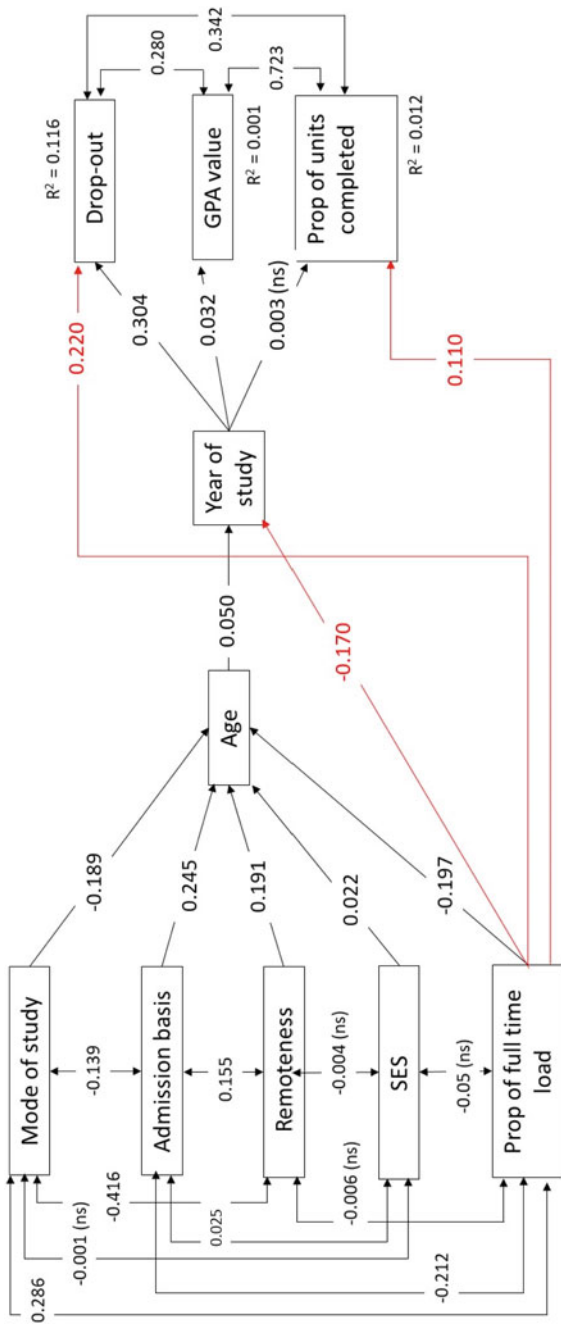


Fig. 10.2 Standardised solution for UTAS

important role in the process. There are only two direct paths from presage variables to an outcome variable: one to proportion of units completed, one to dropout and none to GPA value. Each of the two paths is in addition to paths via the intermediate variables.

It should also be noted that the presage variables are highly intercorrelated. This means that students commonly experience multiple forms of disadvantage or are forced into study choices because of their personal circumstances.

The hypothesised model predicts well that the variables it includes will affect rates of attrition. The change from traditional to contemporary enrolment and course delivery models has meant that, for each of the variables included, the characteristics in the student body has changed in ways which make attrition more likely. The combined effect through the variables included in the path model is that attrition rises as the characteristics of the contemporary model are embraced.

10.4.4 Mode of Study

The standardised coefficient for the path from mode of study to the first intervening variable, age, is among the highest in the model. The negative coefficient reflects the higher attrition for online learning.

Clearly, online learning has a major impact on dropout rates. Students studying online are more likely to dropout than those studying on-campus. This, however, is not a single variable effect. Rather, it should be seen as part of a complex model. There are no direct paths between mode of study and outcome variables.

There are also inter-correlations with other presage variables. The inter-correlation between presage variables and their paths to age are an indication that mode of study is often a function of personal circumstances, rather than a free choice. Mature students, those with family responsibilities, residents in remote areas, those whose entry to university was delayed by poor results at school, and those unable to afford to relocate to a campus commonly have little option but studying online.

10.4.5 Basis of Admission

Basis of admission has an indirect path, via the intervening variables, to the outcome variables, with moderately high standardised coefficients. Those admitted by modes other than performance at secondary school are more likely to dropout, but the magnitude of the standardised coefficients for the indirect path indicates that many do not. The magnitude of the standardised coefficients on the indirect path from admission basis to GPA is lower, showing that basis of admission is less certain as a predictor of academic performance. A possible explanation is that students admitted on a basis other than secondary school performance are likely to be older. Maturity has been shown to be able to compensate to some extent for past academic performance

achievement (Jelfs & Richardson, 2013; Ke & Xie, 2009; Richardson, 1994, 2013; Richardson & King, 1998).

Kember et al. (2021) tested an alternative model in which the variable basis of admission was replaced by ATAR score. Students without an ATAR score in the database were excluded from the sample. The ATAR model was a better predictor of GPA than the basis of admission model. Previous academic performance does impact on performance at university. However, the overall model was far better at explaining outcomes than the ATAR score alone.

10.4.6 Remoteness

Remoteness has moderately strong paths via both intervening variables. Remote students are prone to attrition.

There is an inter-correlation between remoteness and mode of study, with a moderately strong standardised coefficient. The obvious explanation is that those who live in remote areas, away from campuses, find attending classes more difficult, so opt to study online.

The interrelationship might also suggest an interpretation of why online learners are more prone to dropout, consistent with Tinto's model (). The social integration component of the model would appear to be the pertinent element for this section of the discussion. For on-campus study, social integration has been characterised in terms of the degree and the quality of student–student and student–teacher contact and interaction. Orientation activities and diverse first-year experiences have been included in campus life to help students feel incorporated into college society. Teachers are encouraged to feature interaction and activities into their courses to encourage the formation of learning communities. However, online students living remotely are normally unable to participate in such activities, and so any affiliations to social and learning communities are likely to be weaker.

Instructional design principles for online courses posit building activities and online forums into online materials. However, a highly plausible explanation of the model is that online interaction and virtual forms of community, as currently operationalized, are less effective at developing social cohesion than those which operate on-campus.

10.4.7 Socio Economic Status

SES has the path with the smallest standardised coefficient to the intervening variable age. This can be interpreted as meaning that SES has the least impact on attrition or academic performance of any of the presage variables included in the model.

SES had no significant intercorrelations with other presage variables while other presage variables were quite strongly related together. The lack of significant correlations between SES and the other presage variables was surprising. The hypothesised model included the intercorrelations between all the presage variables on the assumption that those from a disadvantaged background might be more likely to live in remote areas, be part-time students and study online. This was shown not to be the case for the UTAS sample.

The low impact of SES in the model seems to suggest that when low SES students are admitted, their low SES status then has little impact on whether they succeed. Coming from a disadvantaged background need not be an impediment to obtaining a degree.

There are several possible explanations for this, which are discussed in greater depth in the concluding chapter. The most likely explanation is that other variables have much greater impact. Another explanation likely to play a part is that the Australian school education system sees social equity and inclusiveness as a high priority (Loughland & Sriprakash, 2016; Rizvi & Lingard, 2011). As a result, low SES students are prepared for university study just about as well as those in higher SES categories.

10.4.8 Proportion of Full-Time Load

Proportion of full-time load has paths to both intermediate variables of moderate size. There is also a direct path with moderate magnitude to dropout. The positive sign of the direct path indicates that desirable outcomes are less likely with a smaller load.

Proportion of full-time load is intercorrelated with admission basis and remoteness. It is also likely to be intercorrelated with other variables not included in the model because they are not commonly in student record databases. Part-time study is often chosen because of employment or career responsibilities. It is better interpreted as an indicator of personal circumstances rather than a direct causal effect on outcomes.

10.4.9 Intervening Variables

The hypothesis that age and year of study would act as intervening variables was largely verified. The modification indices suggested that few direct paths from the presage variables to outcome variables would enhance the fit of the model.

The standardised coefficient for the path from age to year of study is small. The magnitude of the impact of a variable via an indirect path is determined by the product of the standardised coefficients for each step of the indirect path. The strength of the indirect paths from mode of study, admission basis, remoteness, and SES to the

three outcome variables are, therefore, considerably reduced by the low standardised coefficient of the path from age to year of study. Proportion of full-time load is a direct path to year of study, so this effect is of less significance to proportion of full-time load.

10.5 The University of Melbourne: A Traditional Model

Melbourne represents the traditional end of the spectrum. The demographic characteristics, reported in Chap. 4, show that it has a more traditional model of student intake. As all students are taught on-campus, mode of study was dropped from the hypothesised model. While all undergraduate students initially enroll as full-time, a number subsequently did not enroll for enough units to meet the full-time load requirement. For modelling purposes, values for proportion of full-time load were extracted from the database so the variable could be included in the model.

10.5.1 *Sample*

The sample for this study was undergraduate students enrolled in the following seven bachelor degree programs:

- Bachelor of Arts
- Bachelor of Biomedicine
- Bachelor of Commerce
- Bachelor of Fine Arts Specialisations
- Bachelor of Fine Arts Music Specialisations
- Bachelor of Oral Health Study Areas
- Bachelor of Science.

The four programs with high enrolments were the Bachelor of Arts, Bachelor of Biomedicine, Bachelor of Commerce and Bachelor of Science. Most of the entrants were admitted based upon their secondary school results (87.2%). The vast majority were under the age of 24 (96.1%). Only a very small percentage were living in outer regional, remote or very remote areas (2.5%). The sample size of the Melbourne sample for analysis was 17,025.

10.5.2 *Overall Model*

The refined model, after the addition of a path between proportion of full-time load and year of study based upon the modification indexes, shows a very good fit to the data. CFI = 0.959, SRMR = 0.035 and RMSEA = 0.059. All paths but one

were statistically significant. The one not statistically significant was that between remoteness and age.

The good fit of the model shows that it is a statistically significant predictor of outcomes. The proportions of variance of the dropout, course weighted average, and proportion of units completed were: 0.33, 0.131 and 0.0003 (Fig. 10.3).

The overall model for Melbourne can be contrasted with that for UTAS. This comparison contrasts the traditional end of the spectrum with the contemporary end. The most obvious difference between the two models is that mode of study does not feature in the Melbourne model, as there was judged to be insufficient variance in the mode of study to include it in the base model.

As well as having one very important variable less, the Melbourne model is clearly simpler than the UTAS one. There are fewer paths from presage variables to outcome variables. The traditional model of higher education is simpler than the contemporary model. As higher education has moved away from the traditional model it has become more complex. The complexity may imply that measures of support, which were appropriate and successful for the traditional model, are no longer appropriate.

Again, the model is a better predictor of attrition than the other two outcome variables. In spite of the percentage dropout being very low, the model does indicate how the other variables in the student record system impact upon it.

10.5.3 Basis of Admission

The path from basis of admission to age has a much stronger standardised coefficient than that for the other three presage variables. The basis of admission has a small impact on retention, such that those who enroll from secondary education have a small, but statistically significant, higher chance of completion than those not from secondary education.

10.5.4 Remoteness

The path from remoteness to age is non-significant. The lack of impact of remoteness must be because of the small variations in the variable—a very small proportion of students with term addresses which are not Major City or Inner Regional.

On the other hand, there is a moderate intercorrelation between remoteness and SES. The explanation for the intercorrelation may lie in the coding of SES from home address and that for remoteness from the term address. There are inner-city areas of Melbourne which are classified as low SES. These areas are popular for student accommodation. Students whose homes are in areas remote from the campus could reside in these inner-city low SES areas in term time.

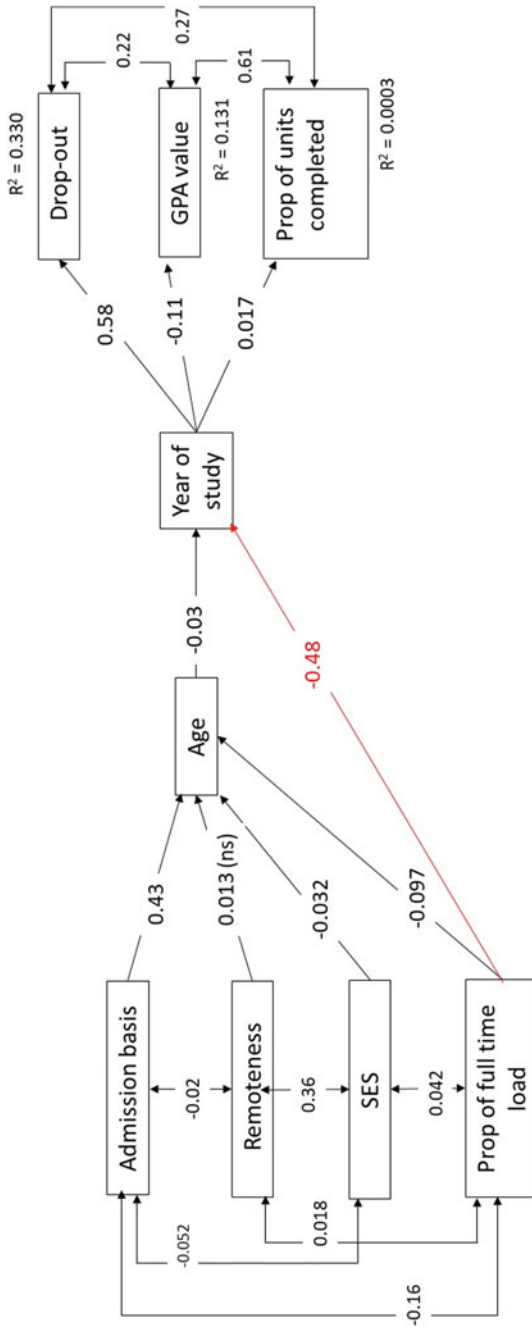


Fig. 10.3 Standardised solution for the University of Melbourne

10.5.5 SES

SES has a path to age with a small and negative, but statistically significant, standardised coefficient, such that older entrants tend to have a lower SES. It has significant intercorrelations with the other three presage variables. The intercorrelations with basis of admission and percentage full-time load are small, while that to remoteness is moderate. SES has little or no impact on the outcome variables.

10.5.6 Proportion of Full-Time Load

Proportion of full-time load has the strongest impact of the precursor variables on the outcome variables. Proportion of full-time load has a relatively strong link via year of study with dropout and a moderate link with course weighted average. The results indicate that those students with a full-time load are more likely to drop out than those with a part-time load and those with a full-time load are more likely to have higher levels of achievement. These observations may be possible because that first-year students are much more likely to drop out than later year students, it may well be that the lower achieving students in first year are those dropping out.

10.5.7 Age

The path from age to year of study has a very small and negative, but statistically significant, standardised coefficient. This partially explains why the three precursor variables—basis of admission, remoteness and SES—have little impact on the outcome variables. The relatively strong link between percentage full-time load and year of study explains why percent of full-time load does have impact on two of the three outcome variables.

The explanation for this may be the restricted age range of Melbourne undergraduates. With only 3.9% older than 24, the large majority must enter straight from school. As most take a full-time load, their age on completion is also low compared to the other three universities. The impact of maturity as an intervening variable is, therefore, restricted. Admission as mature students is normally conditional on age being greater than 24 as impacts of greater motivation and enhanced use of a deep approach (Jelfs & Richardson, 2013; Ke & Xie, 2009; Richardson, 1994, 2013; Richardson & King, 1998) do not normally start to impact without the life experience which comes later on.

10.5.8 Intervening Variables

Despite age or maturity playing less of a role than at the other three universities, the model still functions as a sequential path model. All effects go through the intervening variables. There are no direct paths from presage to outcome variables.

10.6 Discussion and Conclusion

This study used structural equation modeling (SEM), a statistical technique which can be used to examine complex patterns of interactions between many variables in real-life phenomena. The hypothesised SEM model, used as the base model for the two universities, included five presage variables, two intermediate variables and three outcome measures. It was hypothesised that all possible intercorrelations between the five presage variables were significant. The base model hypothesised that the presage variables influence the outcome variables in a path model via the two intermediate variables (Fig. 10.4).

The final models for each of the two universities were similar to the hypothesised base model. The Melbourne did not include mode of study, as universities did not enroll students in degrees offered in the online mode. The final models added additional paths to the base model. The simplest model, with least paths, was that for the traditional university. The model for the contemporary university was included more paths and the represented a substantially more complex model. Both final models had fit indices which indicated that they were a good fit to the data. The models,

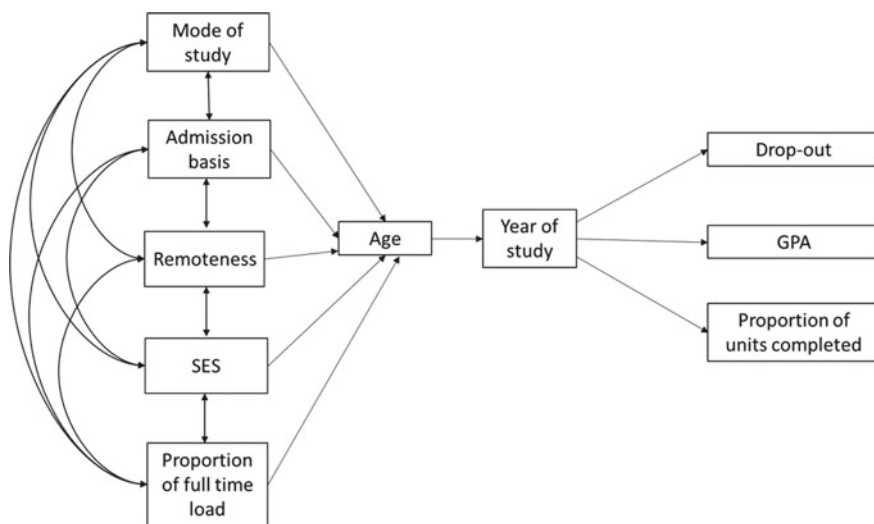


Fig. 10.4 The hypothesized base model

therefore, provide a valid representation of how retention and success are affected by the interacting effects of a set of variables including SES. The models show that retention and success are complex multivariate phenomena.

10.6.1 Complexity of the Models of Retention and Success

Though the models are complex and multivariate, they are simplified versions of reality. The models were restricted to variables readily available in the universities' student record databases. In reality, students are commonly impacted by a wide range of factors which are not routinely recorded as variables in student record databases. Furthermore, these factors act in conjunction with each other.

More significantly, the models take no account of the processes which take place during the course of study. Models of retention and success cannot be complete if they do not include processes of teaching and learning, and student engagement. Also important are constructs such as motivation, and resilience. These constructs are of the type which SEM examines usually with Likert-scale questionnaires. However, there first needs to be research which identifies the nature of the construct in a valid and reliable way.

There are longitudinal process models of attrition, which do theorise that retention and success are significantly impacted by constructs which come into play during the period of study for the degree. The most highly cited of these is that of Tinto (1975, 1987, 1993). Tinto's model introduced the concepts of social and academic integration as being necessary if retention and success are to be enhanced.

The limitation is that these models were based on research which took place at the time of elite higher education. Strategies were developed for promoting social and academic integration, which have been reported in the first year experience (James et al., 2010; Kuh et al., 2008), and student engagement (Trowler, 2010) literatures. However, these strategies were developed at a time when study was predominantly on-campus. Part III of this book presents research into how social and academic integration can be achieved for today's very diverse student body, which does not predominantly study on-campus.

10.6.2 The Impact of COVID-19

The models discussed in this Chapter suggest that the shift towards the contemporary model of higher education, and particularly the adoption of online learning, have had substantial effects on retention and success. The shift across the traditional to contemporary spectrum, represented in this Chapter by the models for the two universities, have taken place over an extended period of time. There was often surprise expressed by those who were the two models. The surprise was how much the contemporary

model had departed from the traditional one. This suggests that contemporary universities could have drifted further across the spectrum, and changed their model more markedly, than they realised.

These gradual drifts across the traditional to contemporary spectrum have had significant effects on retention and success. A major part of the issue is the high incidence of online learning in the contemporary model. It is certain, therefore, that the current shift, which is taking place in a very short space of time, due to COVID-19 will have substantial, and often unanticipated, outcomes, even for the traditional universities. The rapidity of the current transformation is compounded by the change to online learning being put into place by teachers who often have little or no experience, or expertise, with the mode. The students may have some experience of blended learning, but often little or no experience of learning fully online. These shifts are taking place at a time of major social, economic and health disruptions.

Universities realise that the current situation is having a substantial impact on teachers and students, though quite what the outcome will be is hard to predict. The conceptual frameworks offered by this study may help in the interpretation of impacts and outcomes at this time of momentous change.

Acknowledgements This Chapter is an edited versions of parts of Chaps. 3, 4, 5, 8 and 9 of Kember, D & Ellis, R. A. (Eds.) (2022). *Admission and success for low SES university students: Report on a HEPPP 2018 National Priorities Pool Project*. Canberra: Department of Education, Skills and Employment.

References

- Allen, J., & Farber, S. (2018). How time-use and transportation barriers limit on-campus participation of university students. *Travel behaviour and society*, 13, 174–182.
- Bailey, A., Vaduganathan, N., Henry, T., Laverdiere, R., & Pugliese, L. (2018). *Making digital learning work: Success strategies from six leading universities and community colleges*. Boston Consulting Group.
- Bean, J. P. (1980). Dropouts and turnover: The synthesis and test of a causal model of student attrition. *Research in Higher Education*, 12, 155–187.
- Bean, J. P. (1983). The application of a model of turnover in work organizations to the student attrition process. *The Review of Higher Education*, 6(2), 129–148.
- Bentler, P.M. (2006). *EQS structural equations program manual*. Multivariate Software.
- Bollen, K. A., & Long, J. S. (1993). *Testing structural equation models*. Sage.
- Bowl, M., & A. M. Bathmaker. (2016). Non-traditional students and diversity in higher education. In J. E. Cote & A. Furlong (Eds.), *Routledge handbook of the sociology of higher education* (pp. 112–129). Routledge.
- Corbett, M. (2007). *Learning to leave: The irony of schooling in a coastal community*. Fernwood.
- Devlin, M., & McKay, J. (2018). Teaching inclusively online in a massified university system. *Widening Participation and Lifelong Learning*, 20(1), 146–166.
- House-Peters, L. A., Del Casino, V. J., & Brooks, C. F. (2017). Dialogue, inquiry, and encounter: Critical geographies of online higher education. *Progress in Human Geography*.

- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6, 1–55.
- James, R., Krause, K.-L., & Jennings, C. (2010). *The first year experience in Australian Universities: Findings from 1994 to 2009*. Centre for Studies in Higher Education, University of Melbourne.
- Jelfs, A., & Richardson, J. T. E. (2013). The use of digital technologies across the adult life span in distance education. *British Journal of Educational Technology*, 44(2), 338–351.
- Ke, F., & Xie, K. (2009). Toward deep learning for adult students in online courses. *Internet High Educ*, 12(3–4), 136–145.
- Keengwe, J. (Ed.). (2018). *Handbook of research on blended learning pedagogies and professional development in higher education*. IGI Global.
- Kember, D., Leung, D. Y. P., & Prosser, M. (2021). Has the open door become a revolving door? The impact on attrition of moving from elite to mass higher education. *Studies in Higher Education*, 46(2), 258–269.
- Kuh, G. D., T. M. Cruce, R. Shoup, J. Kinzie., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *Journal of Higher Education*, 79(5), 540–563.
- Loughland, T., & Sriprakash, A. (2016). Bernstein revisited: The recontextualisation of equity in contemporary Australian schools. *British Journal of Sociology of Education*, 37(2), 230–247.
- Qayyum, A., & Zawacki-Richter, O. (Eds.). (2018). *Open and distance education in australia, europe and the americas: National perspectives in a digital age* (Vol. 1), Springer.
- Richardson, J. T. E. (1994). Mature students in higher education: A literature survey on approaches to studying. *Studies in Higher Education*, 19(3), 309–325.
- Richardson, J. T. E. (2013). Approaches to studying across the adult life span: Evidence from distance education. *Learning and Individual Differences*, 26, 74–80.
- Richardson, J. T. E., & King, E. (1998). Adult students in higher education: Burden or boon? *Journal of Higher Education*, 69(1), 65–88.
- Rizvi, F., & Lingard, B. (2011). Social equity and the assemblage of values in Australian higher education. *Cambridge Journal of Education*, 41(1), 5–22.
- Sattora, A., & Bentler, P.M. (1994). Corrections to test statistics and standard errors in covariance structure analysis. In A. von Eye & C. C. Clogg (Eds.), *In Latent variables analysis: Applications for developmental research*. Sage.
- Schumacker, R. E., & Lomax, R. G. (1996). *A beginner's guide to structural equation modeling*. Erlbaum Associates.
- Spady, W. G. (1971). Dropouts from higher education: Toward an empirical model. *Interchange*, 2(3), 38–62.
- StataCorp. (2017). *Stata Statistical Software: Release 15*. StataCorpLLC.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89–125.
- Tinto, V. (1987). *Leaving College*. University of Chicago Press.
- Tinto, V. (1993). Building community. *Liberal education*, 79(4), 16–21.
- Trow, M. (1973). *Problems in the transition from elite to mass higher education*. Carnegie Commission on Higher Education.
- Trow, M. (2005). Reflections on the transition from elite to mass to universal access: Forms and phases of higher education in modern societies since WWII. In J. J. F. Forest & P. G. Altbach (Eds.), *International handbook of higher education* (pp. 243–280). Springer.
- Trowler, V. (2010). Student engagement literature review. *The Higher Education Academy*, 11, 1–15.

Chapter 11

Comparison of Student Support Services in Four Universities



Sue Kilpatrick , Sarah Fischer , and Nici Barnes 

Abstract This chapter examines the influence of universities' admission practices, and support services and practices, on the retention and success of a diverse cohort of students. It maps the structure of four case study universities' services, drawing on their websites, documents and interviews with admissions and support representatives. The chapter considers the literature introduced in Chaps. 2 and 8, interviews with students (discussed in Chap. 1) and quantitative modelling of student data (see Chaps. 1 and 14) to understand how university structures and practices can influence student retention and success. It draws out features of service design and university practices that appear to enhance retention and success of the diverse student cohorts that are enrolled at Australian universities. This study was conducted at the beginning of the COVID 19 pandemic. This chapter therefore does not report or consider the immediate responses of the four universities to COVID 19, nor any longer-term changes to their admission practices, and support services and support practices.

11.1 Methods

This chapter adopts a case study design (Stake, 1995, 2003) to investigate the admissions and support services and practices at four universities, University of Tasmania, Griffith University, University of Wollongong and University of Melbourne. The four case study universities were selected to represent different points on the spectrum from traditional to contemporary models of admission and course delivery introduced in Chap. 4. The University of Tasmania is at the contemporary end of the spectrum,

S. Kilpatrick (✉) · S. Fischer
Faculty of Education, University of Tasmania, Launceston, TAS, Australia
e-mail: sue.kilpatrick@utas.edu.au

S. Fischer
e-mail: sarah.fischer@utas.edu.au

N. Barnes
Tasmanian Institute of Agriculture, University of Tasmania, Burnie, Australia
e-mail: nicoli.barnes@utas.edu.au

Griffith University is toward the contemporary end, University of Wollongong is near the centre and University of Melbourne is at the traditional end of the spectrum in terms of diversity of student body and delivery practices. It considers the perspectives of the universities themselves and their students in order to understand the influence of the practices and services on retention and success.

11.1.1 University Practice

Admissions and support services and practices at the four universities were mapped, drawing on each university's website to determine how its services were structured. Ease of use of the websites was analysed based on the number of clicks to locate and access support services. Mapping was supplemented by a document analysis (Owen, 2014) of policy and procedure documents (Fischer et al., 2007) which were either available on these websites or voluntarily provided by university representatives following interviews.

Semi-structured interviews were conducted with twelve representatives across the four universities with responsibility for admissions, learning and teaching support, and/or non-academic support services, in order to understand the university perspective. Interviewees were drawn from heads of student support units, indigenous support units, teaching and learning units and admissions policy areas. Interviews were conducted either individually or in small groups of two to three participants from the same university. Topics of discussion included the structure of admission and support services and practices including monitoring of retention and performance of equity group students, communication with staff and students about services, and policy development and review processes. Some participants at three of the universities volunteered additional information about their perception of the effectiveness of their services and practices. Interviews lasted approximately 45 min. They were recorded with the participants' consent, transcribed and analysed for themes using the method described by Guest et al. (2012). Interview data supplemented the mapping and document analysis and to identify admissions and support services and practices at each of the four universities. The findings in the first part of this chapter pertain to only staff data collected.

11.1.2 Student Experience

To assist in understanding the influences of university admission practices, and support services and practices on the student experience, we have drawn on the quantitative and qualitative findings drawn from the student data in other chapters (Chaps. 1, 4, 5, 6 and 10). First, interviews from three of the universities (University of Tasmania, Griffith University and University of Wollongong) were analysed for influences of admission practices, and support services and practices on the student

experience at each of these universities. Next, the university perspectives on admission practices, and support services and practices at each of these universities plus the University of Melbourne were analysed in light of the characteristics of their student body and themes drawn from student interviews. Cross-university themes from this university-by-university analysis, along with findings from the student data, were then considered in compiling features of service design and university practices that appear to enhance retention and success of the diverse student cohorts that are enrolled at Australian universities.

11.1.3 Cross-University Comparison

The chapter culminates in a cross-institutional comparison table which highlights alignment of admission practices, and support services and practices with the nature of each institution's student body. This is followed by features of good practice for university policy and admissions and student services derived from data from the case study universities and the targeted literature reviews (Chaps. 2 and 8). The features also identify the points at which policy and practice can intervene, or otherwise act, to enhance retention or success.

11.1.4 Admissions and Support Structures and Practices

The following sections describe the admissions and support structures and practices at four universities. These sections are each arranged in the same order to facilitate comparison. Following the last case is a summary table that juxtaposes all four cases. It should be noted that because a different subset of questions was used for two of the universities, not all information is available for each university. Information from the website analysis was used to fill these gaps. Finally, the interviews revealed that university participants' roles were largely separated, and individual participants were not able to address all questions. In some cases, they were able to direct the researchers to the people in their university who could answer questions in certain areas.

11.2 University of Tasmania

As explained in Chaps. 4, 5, 6 and 10, the University of Tasmania has been labelled a contemporary university with respect to admission and course delivery; with a large percentage of low SES and non-traditional students, and online study.

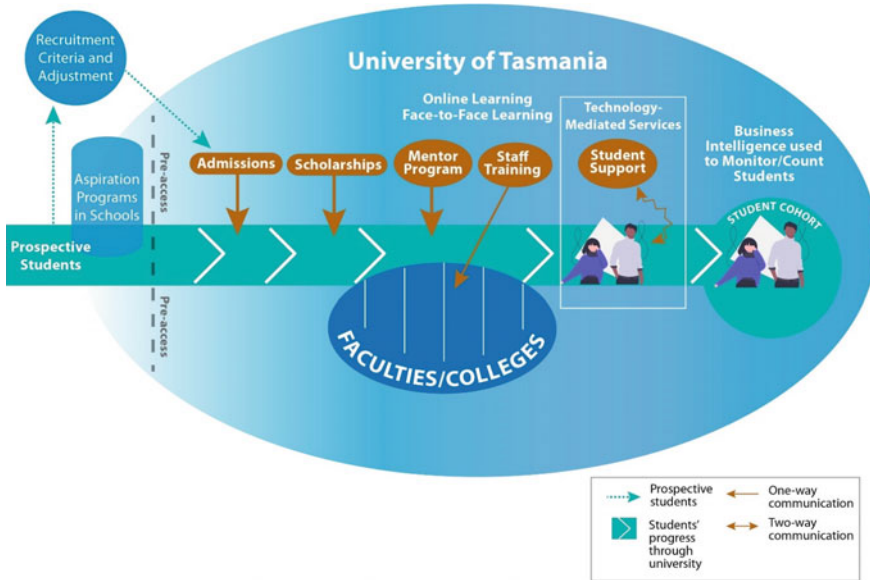


Fig. 11.1 University of Tasmania admissions and support services

11.2.1 University Governance

11.2.1.1 Centralised Support Services with Limited Support in the Colleges

The university governance of admissions and support services at this university can be described as centralised with limited support service presence in its colleges. Figure 11.1 shows a generalised model of how these services are structured. The main support services are located centrally and work with students and staff in all colleges/schools.

11.2.1.2 No Way to Identify Low SES Students

Interview participants at this university nominated the lack of ability to identify low SES students who make up a substantial proportion of students at this university, as a major stumbling block to being able to provide and/or target specific support services for these students. Because staff in support positions are unable to identify individual low SES students using university information systems, they felt they were unable to offer specific, targeted support for this group. For example, one participant explained,

We cannot identify and/or evaluate at the present time the impact of what we do specifically for low SES because they're not tagged in our business intelligence. (UTAS_01)

And another said,

Give us a flag. We need help finding them. Yeah, a flag would be phenomenal. We need a flag and we've been saying this for the last two to three years. This is really kind of key. We need a flag in the system. (UTAS_01)

And a third explained,

...We can pick out a subgroup of domestic students who we call CALD students who are not international students but have recently moved to Australia. That's a key hit group. We can see students who are studying full time, part time, distance mode. We can see students by age. So, a lot of the other factors that the literature tells us contribute to high risk we can pick out, but we can't actually pick out low SES at the moment as a cohesive group and do targeted work. (UTAS_01)

11.2.1.3 Staff Training Focused on Mental Health and Cultural Understanding

In terms of training for staff to support low SES and other equity group students, interview participants at the University of Tasmania highlighted mental health first aid courses as a priority. Participants identified high presentations of mental health issues among the low SES cohort as the reason for this. Other training opportunities that were encouraged focused on sexual harassment, assault and violence. Cultural understanding was a third area mentioned as a type of training offered for staff. For example, one participant explained,

So, no matter what role you're in, having a mental health first aid or a core understanding and ability because that's a high presentation for us, and then the other one is everybody being across responding to disclosure that's sexual harassment, assault and violence. So, you know, staff having to do training in that. So, I recommend the third one is the cultural competence training of some sort, and that's one where we're still working through, so connecting in with opportunities that's in relation to Aboriginal culture but then obviously more broadly around cultural diversity. (UTAS_01)

This differs from staff training focus areas that were highlighted at the other universities in this study and suggests practices closer to an 'ambulance at the bottom of the cliff' model than a focus on staff training to reduce the risk of students dropping out or failing.

11.2.2 Pre-access and Access

Bennett et al. (2015) describe the pre-access and access stage of the student life-cycle as encompassing outreach efforts to potential university applicants through the admissions process. This also includes various pathways for admission. At the University of Tasmania, there are many pathways for admissions for that are not based on school results. Two main ideas were that emerged from this university were recruitment and monitoring of admissions and support services.

11.2.2.1 Recruitment Focused on All Tasmanians

At the University of Tasmania, interview participants explained that there was not a specific effort to recruit low SES students, but rather recruitment efforts were focused on all Tasmanians. In the case of Tasmania, it should be noted that this

The university absolutely does very focused and purposeful work around recruiting, you know, the point of the whole mission of our work in Tasmania, so to enable all Tasmanians from whatever background and which we know we are regional and rural by nature of the state. And so, we know predominantly there's a lot of low SES and there's very purposeful development of pathways and courses in the university and college to try and maximise and optimise students' ability to engage in higher education, including scholarship packaging and all those sorts of things. (UTAS_01)

This approach is most consistent with universal design principles and shows a shift away from deficit models (Burgstahler, 2009; Thomas, 2014).

11.2.2.2 Monitoring of Admissions, Performance and Retention in Planning Stages

The monitoring of admissions and support services at this university was described by interview participants as efforts that were largely data driven by 'business intelligence' quantitative data. Participants described as still being in the planning stages and ad hoc. For example,

Our reporting is more back out to the colleges around what is the impact of what we've been doing for each college so, what's the student engagement with what's on offer and where possible, obviously, not everything were possible, what's been the impact on retention and/or student outcomes. I think the next – in terms of what you're looking at, the university itself is currently setting up a lot more performance metrics. (UTAS_01)

11.2.3 Practice

Once students are admitted and enrolled, the student life-cycle phase shifts to 'practice' (Bennett et al., 2015). The focus of this phase is the support that students receive during their study.

11.2.3.1 Communication Focused on Disseminating Information to Both Incoming Students and Staff

In the case of the University of Tasmania, participants described communication efforts that were focused on disseminating information to both incoming students and staff. In this style of communication, the information flow is one-directional, with a responsibility shifted to the receiver of the information to take action.

We start right from the point of students accepting their offers. We start to communicate with them really early on and sharing information as early as we possibly can through an email campaign, the welcome email campaign that go to all new commencing students and it's tailored and targeted to cohort and location specific. And that thing, sort of, takes us towards our orientation of new students where we have a lot happening essentially but also driven by the colleges in that space where information around courses unit, teaching staff, expectation, services all of the different things to orientate students into the environment. Our website has a lot of information, you know, that is obviously undergoing a fairly significant project in the website redesign and development in the next 12 months. But there's a lot of information on the web and we try to make that a simple student-centred language being the same, you know, look, tone and feel across our sort of student experience area. (UTAS_01)

And another explained,

We support the staff to support the students and making sure that staff are fully aware of what's happening across the support and service landscape as well I think is something that we do and we've got our student retention and success staff-specific website or webpage available with a lot of our information there to share that. (UTAS_01)

In the above examples, the participants describe an email campaign and information being available on the university's website. These mechanisms for communication rely on the intended recipient of the information to take the responsibility to seek and gather the information. The genre chosen for communication (Yates & Orlikowski, 2002) in this case does not provide an opportunity for the intended recipient to respond directly nor does it allow the sender to confirm receipt of and reaction to the information.

11.2.3.2 Creating Connections

When asked about what support is provided to facilitate students feeling connected to their campus, interview participants described using phone calls and Facebook Live advice session for incoming students. For example,

And that's done through a variety of ways like through the phone calls that [xxx]'s speaking about, through Facebook Live events that we put on that are targeted to distant students, but really anyone can sort of join in on those and through our registered Facebook page which is connected to our UTAS Facebook page. Oh, and through targeted things that we do during orientation like Steps to Success that really focuses on connecting students, [it's an] icebreaker exercise so they get to meet each other to be successful at university. (UTAS_01)

The Steps to Success program is a two hour on-campus session that provides an introduction to using the university's online learning platform. While the phone calls and Facebook Live methods involve two-way communication, they are face-to-face. Steps to Success provides an opportunity for students to physically meet other students whom they will be studying with through their courses and begins to assist with building social capital (Lenette & Ingamells, 2013; Macqueen, 2018).

11.2.3.3 Data Driven/Business Intelligence Driven Approach to Targeting Support

Another important aspect of the University of Tasmania's practice phase of the student life cycle was the use of 'business intelligence' to target support for students. Interview participants. This is another example of universal design principles being applied at this university. Low SES students are not targeted, instead, courses and units are targeted based on the numbers of students either failing or leaving at the course and unit level.

There's a fairly significant data we can get out of business intelligence these days, which targets down to the course and unit level. We get a really clear sense of where our highest number of students at risk are, so students who are either failing or leaving at the course and unit level. So, we'd use that each semester now in our planning, we'd sit down with a selection of advisors. Student advisors, student learning advisors, librarians are assigned to a college and they sit down with this data and then use it to map out which courses and units they think they need to approach for embedded with each semester. So that's a really targeted way of getting the right things in the right places and then making the right academic staff aware of which particular supports are out there to assist their students and get those as close as possible to the teaching coalface so the students take those supports up. (UTAS_01)

In addition to targeting the course and unit level, one participant described targeting support at the student level as well. As with the example above, this targeted support was not based on a low SES label, but rather on lack of student engagement.

The other way we get in is to use data from student management and LMS to get this directly to the students who are looking like they don't have – aren't doing things they need to by giving point because the literature clearly shows us that if we can get to those students early, we can be much more effective in the support that we provide. ...There's a targeted suite of phone calls that we would be using at any given points in a semester where we know students tend to have issues, or like just before semester commencement to get them off to a good start, or factors that we know are contributing to students not doing particularly well like class attendance and not handing things in. We use those to target those students for phone calls to make sure that they're aware of the supports that can help them based on their individual situation. So, two ways of targeting: one, getting in at the course and unit level so the support is in right place and then two, getting in at the student level to pick out those students who most need us and targeting them for active information about what's happening and help them through the phone. (UTAS_01)

Overall, this university appears to be moving away from a deficit model in supporting students and towards one which adheres to the principles of universal design. The lack of an ability to identify specific low SES students may be contributing to this.

11.3 Griffith University

Griffith University can be described as a contemporary model for a metropolitan university (Fig. 11.2).

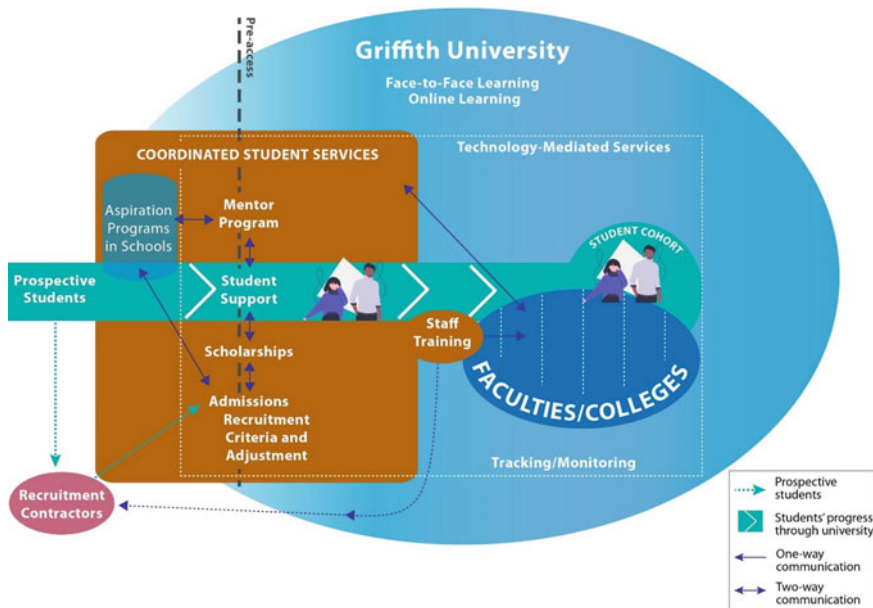


Fig. 11.2 Griffith University admissions and support services

11.3.1 University Governance

Griffith University has a centralised governance system for its admissions and student support services with specific program officers distributed to outlying campuses who report back to the central office regularly, particularly in relation to a coordinated response when ‘triaging’ students.

So Griffith is very centralised, is probably one of the things I want to point out here. So, the administrative areas out in the groups are program services officers and those sorts of people whereas all of our other admin sits centrally. So, we’ve rolled out our inquiry management framework so that those are joined up and those people will have access to the same pathways to triage students backwards and forwards into the right services and you can make sure that that’s happened. (GU_03)

This system has come about in a recent restructure that acted to co-locate people working on different stages of the student lifecycle together and is reported by staff to be working well. A new VC was the catalyst and major support for the changes that have occurred. The change has been given support across the university and is currently ongoing.

...having leadership that actually values education for everyone who’s ready. They’re putting their money where their mouth is, I guess, that’s what is needed in any university at the highest level. I think Griffith has a long-standing social awareness and ‘access for all’ sort of ethos, but having this renewed focus on that with a new VC is very good, its very positive, and so when it comes to effecting change across the university, that’s what’s required. You just

need to have that commitment from the top, [...] having it reiterated from the top is always needed. (GU_03)

The centralised governance therefore requires significant efforts to maintain connections and communication across the physical separation they exist in. This requires consistent and regular meetings and training to ensure that everyone is delivering the same messages.

So we coordinate for the university out of my units (GU_03),

The Outreach component has a group who meet together, who are all of the areas that are active out in schools and they meet routinely as a governance and advisory mechanism to ensure that we're all joined up. (GU_03)

...they'd make sure that the messages going up from aspirational teams are also the ones [...] going out from the marketing elements but also where our academic groups are going out and doing curriculum pieces in schools. (GU_03)

I've just come from our senior leadership forum. [...] 180 of us locked down for two days running. I facilitated six groups running ten staff through each of the six, so I saw 60 staff and all of the other facilitators did the same around our strategic plan and how we were going to formulate and roll out components of that. (GU_03)

Information is available to all staff to ensure a consistent approach with students but this is tempered with the reminder that all students and different and messages are "tailored [...] to students depending on what their journey has been". (GU_02)

The staff report that concerted efforts are made to coordinate across 'silo's they identify as existing in their area of work. Work that is done in one area aims to complement work from another area and staff are aware of this and speak positively about it.

...where we complement the work that [outreach] does is of course in our admissions area. (GU-03)

[others] would have talked you through the TAC Educational Access Scheme, the personal competency, our directed admission scheme [...] But on top of that, of course, is our scholarship schemes which sit across the top to financially support those students, as an incoming cohort, to recruit them in. (GU_03)

The aim of the constant connection and communication between, and across, multiple services in the university, is a 'seamless service'.

Yeah, there's no gaps. And the students see the seamless sort of service and that's where it should be. From their experience, it's seamless and it would make sense that now we're working together as well, but seamlessly. (GU_03)

However, the equity staff at Griffith University are realistic about the level of commitment this requires and note that the system sometimes 'falls down'.

So, it's not seamless. [...] It takes constant to work and there are always glitches that we find. But we are doing the best we possibly can. (GU_03)

Griffith University rely on significant use of technology and online resources to maintain 'connections'. These technological connections occur both within the university structures and governance and between the university and students.

...[we] have a community of practice across the university talking about what goes on and we share it with the Microsoft team, and that means we're able to roll out all the materials that are happening so across the university everyone can see how it works. We also manage the My Orientation piece, which is the student online orientation, but that means that we work with the academic areas in the groups and the other providers. So again, they can see what goes into that and helps or build on who's providing what. (GU_03)

In order to maintain the consistency of messages and support of equity students across the multiple avenues of delivery, training is also provided for academic and professional staff as well as to outside contractors who have initial contacts with students. This is particularly relevant for programs like the mentoring program.

Griffith has always had peer mentoring programs. What we do that's possibly different to other universities is that we have a central training point for all our mentors [...] what we do is we run the training programs for all peer mentors at the beginning of each year so that everybody is getting a consistent level of understanding of what's required of the peer mentor, [...] then we're getting consistency, particularly as far as triage and referral on goes. (GU_03)

Griffith University try to take a participatory approach for the development of policies and implementation processes in the admissions and student services space. Leaders actively seek input from staff and try to involve as many people as possible in the process, including students. Feedback from all sources is valued to make processes and programs as applicable as possible.

We do reviews with our mentors each year and I know all of the teams do this, all of our old and new students and like I said, we rely on students heavily because we think that's a great delivery mechanism. It's not a boundary for the students that are reaching out to the high school kids. They kind of relate really well. So, they give us feedback formally through review. But also then, when we're in development phase, we'll say, "So what about this?" There's that real genuine back and forth. (GU_03)

...in our team, at the end of the year we do a review. We're inviting all of our partners and all of our schools so there would be representation of guidance officers, head of departments, some of them are year-level teachers and they come in and they also give us our feedback [...]. So all of that together with the partners from school, with the students, help us keep our program delivery, I guess, on point and accessible. [...] And I think that's why students enjoy being part of it because they see that we do value their input. (GU_03)

...part of the restructure within Student Success is that we've taken the student welfare team and the scholarships team and we're actually blending them into a student financial support team. [...] from next week onwards, we're undergoing the human-centred design process where we've invited 70 students to participate in interviews to help design from the ground up how students would access financial assistance. (GU_03)

11.3.2 Pre-access and Access

Griffith University reports being very active in targeting low SES students through a comprehensive recruitment strategy which not only takes them into schools from primary through to the end of Year 12 but continues this support after recruitment to then offer specific support for those students once they arrive.

Low SES students are identified and prioritised in university processes. Admissions schemes are accessed to support low SES and first people students—educational access scheme, personal statements, Gold Coast and Logan Priority Access Scheme, are just some of the support mechanisms used to invite equity groups into the university. Admissions are based on a range of entry opportunities.

...our open-door policy about looking at other ways to admit students based on commitment, motivation and resilience. (GU_02)

...might take [into] account other factors such as work and life experience, demonstrated commitment and specific achievements related to particular fields of endeavor. (GU_02)

Griffith University also looks to access low SES and Aboriginal students not just in Queensland but also from northern NSW.

11.3.3 *Practice*

Griffith University practices related to admissions and support services for equity groups seem to draw on three main principals: connecting student and building community; challenging and being aware of deficit understandings and practices; and mechanisms for monitoring and tracking.

The emphasis on connectedness for both students and staff is carried over from the VC's new governance directions. Staff reported that these types of activities play out in significant ways within the admissions and student support services space through community building initiatives, orientation, and peer-to-peer mentoring.

I think it's the magic between the whole welcome to university, join a team, [...] some of these things start being addressed before they come to O Week. (GU_03)

Initiatives are regularly tailored to suit the specific course requirement and for the different levels of entry into the university. However, there is also a core groups of skills targeted by specific programs that all students require and are usually accessed as online resources.

...it's different if you're [...] an international student because there are some international pieces you need to do. It's different if you're an undergraduate, from a post-graduate student to HDR student and it's different for our group base. [...] there are some specific things in Science I that aren't in Art I for instance, so guys have to undertake some help and safety training workshops. But in all of them, we actually had an academic skills component [...] which is an online workshop tool device by our library and learning services that takes them through those key things that you'll need to know about the basics, [...] and what we use our mentors to do is to continually point back to those tools, so we don't redevelop or build new tools. (GU_03)

Peer-to-peer mentoring appeared to be a central mechanism for developing connection between the university and new students and was highly valued by the university. Staff spoke of the importance of the broad variety mentoring opportunities that could

be accessed by new students and the opportunities for more experienced students to be involved. Some of the mentoring was voluntary, other mentoring roles were paid positions. The program is promoted on the Griffith University website.

... if you go to our website and type in peer mentoring program, you'll get our full suite of how mentoring works at Griffith. Student mentoring and how students can access that [can be filtered] by campus, by study area, the type. But it's all centrally coordinated so that we know what's going on in each space and, therefore, we can also reward our peer mentors. (GU_03)

We talk a bit about budgeting, we talk about time management, all these sorts of things, and that's in Year 11 and 12. These things are reiterated and made available [...] through the library, but also through some of the groups themselves. They'll take it on and drill down to be specific to the needs of their cohorts. (GU_03)

Griffith University report using robust systems for the monitoring and tracking for low SES students with continuous reporting in order to support students.

...[there is] constant reviewing and refining. (GU_02)

... we monitor performance. So, we have various tracking mechanisms set up to work out what the students are engaging with. For instance, we track attendance at orientation, digitally through our CRM. (GU_03)

This mechanism is also used to track numerous other activities such as,

... Have you accessed and completed and how much of My Orientation have you completed? Did you attend your orientation session or not? Are you accessing your learning materials online? Are you attending core lectures? Have you submitted your first piece of assessment? [What are] your grades from first place assessment? [...] attendance of the early bird workshops for preparation, attendance with the peer mentoring programs – the Griffith Writing Mentors. (GU_03)

Data collected is analysed through a dedicated 'planning and analytics group' and is used for two things. Firstly, to analyse access and usefulness of services, retention, outcomes across cohorts, and the trends and effectiveness of programs.

...we can start to join together things like that program, that program, and that program combined, have the best advocacy over that standalone and that standalone. (GU_03)

And secondly, although programs are offered across entire year cohorts (not just for equity groups within year cohorts), it allows particular parts of a cohort to be analysed against particular aspects of the data.

...it's for all students but it helps us then break into cohort. (GU_03)

There does seem to be the intent to use this data as a way of assisting and supporting equity students to succeed. However, it would be very easy to slip back into making judgements of student failure through the application of this data and care is needed to prevent this from happening.

One way that Griffith University is attempting to prevent the blame for 'failure' being placed on students and moving towards a more supportive model is to move away from a deficit model through the implementation of universal design.

What Griffith has been trying to move away from and has for the major part over the last five years is away from a deficit model. So wherein the past, there were silos of activity that were, “This is a thing for low-SES student, this is the thing for Indigenous students, this is the thing...”, we’ve tried to move to a model that’s, “This is what we do for all students,” and then the universal design process, this should benefit everybody regardless. Then, “here are some additional or scaled up pieces which particularly benefit these cohorts.” (GU_03)

...we want to see, are we attaining the right numbers and bringing them in and then also, are they succeeding as they move on [...] So, what we’re trying to do is find that perfect balance of bringing people in who are prepared and capable and then monitoring and allowing them to be successful while they’re here. (GU_03)

...we invited all students who are entering into Griffith from Year 12 this year in our first trimester, from the schools that we outreach, to a ‘welcome’ one day event. The transition team was there greeting them, but instead of just inviting those who would have been active in participating in specific outreach programs throughout their Year 11 and 12, we invited all students from those schools. It’s well attended, and it has been in the past [...] It was all kinds of students from those schools who came along and actually brought friends because they’re able to bring their whole friendship groups and that sort of thing. These are things that normalise the, “Hey, you are from an area that everyone recognises has some access challenges.” But we don’t focus on that, we focus on the fact that, “Hey, we’re glad you’re all here,” and that was really well received, so I’m pretty impressed with that. (GU_03)

...the university is spending a bit of time [...] really thinking about how we design courses to better cope for everybody coming in and allowing that flexibility for personal circumstances. [...] So how do we design assessment in a way that allows people to be able to undertake it and doesn’t exacerbate existing conditions, how do we allow people to move in and out a bit more seamlessly? Ironically enough, Corona Virus has actually turned out to be God sent in our design space because we’re having to rethink entirely some of our online delivery and some of the spaces where we don’t have online delivery very well in order to roll it out to the students that are in China, whereas universities can be a bit stale when you str continually saying to them, “Don’t forget we’ve got low-SES students, we’ve got First Peoples students,” and it’s like, “Yeah, yeah, yeah, this is how I’ve always taught, this is how it works,” blah, blah, blah. All of a sudden, we’ve got a big thing on the horizon that’s directly going to impact our bottom line and how things work, and that’s certainly motivated a lot of people to rethink the design of courses which makes them more accessible across the board to everybody. (GU_03)

11.4 University of Wollongong

The University of Wollongong is a university teaching on-campus to a diverse student body. It has a number of campuses across rural and urban locations on the southern coast of NSW and its student population is predominantly rural and low SES, with a significant and increasing Aboriginal cohort (Fig. 11.3).

11.4.1 University Governance

Staff from the University of Wollongong spoke of taking an embedded approach to managing issues of equity. Responsibility is not left to one person or one unit/program

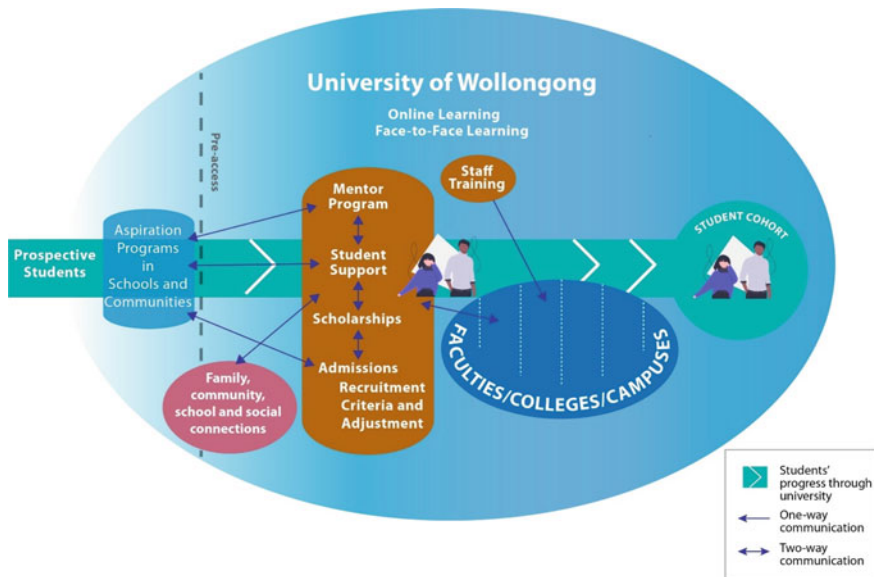


Fig. 11.3 University of Wollongong admissions and support services

but is instead seen as a responsibility shared by all university staff. While the Equity Unit does run many of the relevant equity programs, and is proactive in doing this, the primary role of the equity team is to manage the equity responses across the university rather than to just direct or be solely responsible for the university response.

...each unit, not just the equity unit, has responsibility for equity in terms of admission and support and the action plan is managed by the equity team – everyone has responsibility as part of it and it draws in everyone else as part of it. (UoW_01)

It is a university that is “working holistically to get across all our processes” (UoW_03). That said, the university also has specific teams which were developed for specific purposes in recruiting and admissions. However, these teams reported constantly working together in the equity space.

...different units and staff are actively recruiting low SES and indigenous. [...] There’s a student success, equity and success unit – they’re the owners of the equity space, and then they work with other units across the university to recruit low-SES students. (UoW_03)

These teams are now headed and supported through university governance structures, a change which came with the appointment of a new PVC for students. This appointment was seen as a catalyst for the current equity model.

Well, predominantly, the major change was appointing the Pro Vice Chancellor for the students. Once that position was in play then they’re forming a team underneath her. [...] So, all of the work of In2Uni, all of the work of equity groups, the past teams, it’s also now sitting really neatly under the umbrella of the PVCS. So that’s really been the catalyst, if you like, to everything that we’ve now got rolling. (UoW_03)

While the intent of the university appears to be an integrated and embedded approach to equity, the teams under the equity umbrella were also realistic in recognising that there are two challenges in doing this. Firstly, that the system has had to divide responsibilities in order to administer them efficiently, despite the intent to share. For example, scholarships, admissions and data seem to be separated and sometimes not used across these processes effectively,

I don't think there's a lot of collaboration in terms of the equity scholarships and the admission space. (UoW_03)

So when we're talking about UAC [University Access Centre] or high school leavers, a lot of that stuff goes through the UAC centre, and then they provide all the data. (UoW_03)

...it varies from faculty to faculty, that's the other issue, too, and what supports they've got in play can be different between my faculty and another faculty. (UoW_02)

Secondly there were recognised gaps which still need to be filled such as in the student mentor program. University of Wollongong equity staff work to address these gaps when they become aware of them.

Student mentors is also a new initiative that we started last year. It hasn't developed as much as I'd like it yet, but everything takes time. And when you've got that many different projects on the go, sometimes it's a little bit tricky. (UoW_02)

An example of University of Wollongong proactively moving to fill gaps is their identification that parents are often not included in the information given by admissions and support services in order to support their children. They are currently designing programs that specifically target information for parents to address this identified gap. University of Wollongong appears to work towards identifying and addressing these gaps through established dissemination channels and personnel positions that are built into the university structure with roles for communicating this information and support its application.

...that's where I bring in the academic program, directed from each of the focused courses and we share with them the strategies that we're doing, [...] so that it's getting disseminated. We can't do it without the help of the academic program directress and subject coordinators because they are the people that are teaching. So, in our structure, the faculty level where I sit, I keep the staff informed and supported. We also have our heads of students and our student support advisers and we have our student mentors as well. (UoW_02)

While there is a distinct agenda for a whole of university approach to equity, each faculty has been encouraged to address equity in ways that are accommodated within existing faculty directions, courses, and structures, and involve participation by all faculty stakeholders.

One of the core activities that we do that's embedded in the action plan at the faculty level is we have collaborative teams set up in each faculty. We target courses that have high enrolments of low socioeconomic, aboriginal and Torres Strait Islander students... that are large first-year courses, so Bachelor of Art, Bachelor of Science, Bachelor of Commerce and Business, so that's large first-year courses. We work across the course so we get a really good understanding of the needs of equity students within those courses, in terms of what things are pushing them out of the university or keeping them in the university. (UoW_01)

there's certain thresholds for admissions and they're determined well before the offer round, [...] all the background data and the thresholds are set by the faculties. (UoW_03)

Activities are adjusted in conjunction with the faculty and meld with existing structures to support equity students. Both student and staff feedback is sought and continually applied and updated.

We don't go and just put a program in place and hope it works. ... We do a lot of consultation, evidence-based approaches, focus groups with students, ... to really understand the needs of the students, [...] even though there are some synergies between courses, [...] and to get a really good understanding of what's actually happening in that specific context. What comes out of that investigation over a 12-month period is then an implementation plan that is designed specifically to that course and to the needs of the students in that course. (UoW_01)

Having someone liaising between the faculty and equity team to feedback to the equity team has meant that University of Wollongong is able to develop programs that are relevant for the courses within faculties while also being responsive to equity students' needs.

... having that person on-board as a transition and retention coordinator meant that we finally had time for someone to do that kind of work and the information that we were getting back was able to feed back into the programs that we're setting up for this year. For example, on orientation day, students overwhelmingly told us that they needed more information, more time, they would like more help with understanding Moodle, with understanding time management, with understanding the supports and services that are available. So, we were able to then go to our student services division and request that we run something completely different for our students in the School of Health and Society. (UoW_02)

11.4.2 Pre-access and Access

Active recruitment of equity groups during the pre-access and access phases was not flagged as a priority for University of Wollongong. They ran school visits through their school recruitment team but relied primarily on their website and information sheets to distribute information: "I think it's on our website" (UoW_03).

What we've tried to do this year is work a lot more closely with our school recruitment team, so they're doing school visits. And with the schools that have been identified as disadvantaged, we're doing information sheets for their internal recruits to make sure that they're talking about these types of opportunities for students at those schools. (UoW_03)

This was not a deliberate targeting of non-equity student cohorts such as the University of Melbourne does, but a recognition that University of Wollongong campuses are located in communities where there are a high proportion of equity populations such as rural, low SES and Aboriginal groups. Their focus was therefore on 'local' recruitment.

...with regards to actually actively recruiting those students, because of where we're located, what we tend to find is it's quite high percentage of students, it's in the 80s typically, but it changes year to year of students in our region will come to UoW because they can stay at home with their families and be close to their communities. (UoW_01)

Actively recruit? [...] Our Indigenous numbers are very good [and] for some reason we don't have any trouble attracting low SES students, I think, because of the nature of our feeding areas. (UoW_02)

In order to translate recruitment into enrolment University of Wollongong also works on creating “soft transition” opportunities by working with prospective students from the beginning of Year 11.

So if low SES students are wanting to go on to the university, there's a whole range of activities [...] to get students ready for that transition to higher ed. Students start studying their subjects here with us at the end of Year 11, and so it's a very soft transition for a lot of students into university study. (UoW_01)

11.4.3 Practice

University of Wollongong's practice of equity begins with an understanding that equity is about “the whole package...” (UoW_03), that focus on the student rather than the university and encompasses pre and post university life.

It's supporting the students through disasters and issues that happen outside of education and in their lives. (UoW_03)

This was particularly important during the NSW bushfires in 2019-20 that severely impacted all the southern NSW campuses. For example, through the equity scholarships that are offered to low SES students, a student success package that covers financial and non-financial benefits such as discounts to clubs, which has the added bonus of connecting students socially to the university community; as well as priority into peer learning programs, access to the careers team “to develop a work-integrated learning type grant where we're trying to encourage low-SES students to participate in work integrated learning programs because it's trying to set them up for success after university.... and financial literacy programs. This suite of programs is designed to set them up for the future. So the whole goal around the success package is to use this opportunity throughout their university lifecycle to prepare them for the real world. (UoW_03)

The equity unit staff recognise that the offering of these programs has to be flexible in order to meet the needs of all students at times that might fall out of the university timetable. Their immediate concern at the time of these interviews was a bushfire response for students and provides a good example of this flexible approach and would well suit a response to the current COVID 19 response as well.

I think with the bushfires, [processes and programs have] expanded ... because of the national emergency. So I guess that's where we're trying to address immediate issues or things that pop up throughout the students' lifestyle because it doesn't always fall within a session. So there was a way to address some of their immediate needs. And that's just talking about the financial. So there was a whole raft of other support services because the feedback that we're getting from campus managers is that the financial was – it's not going to solve everything. It was more the impact on the student experience and the anxiety and stuff like that.” (UoW_03)

University of Wollongong also provides multiple opportunities with the intent of creating connections for students into the university community.

there's a whole range of activities that we do to basically build a sense of belonging and connectedness with universities. (UoW_01)

Activities for first year students, prior to commencement, include "tech students" (UoW_01) online interactions and transition and induction programs. Celebration events such as first in family events run with families to recognize the importance of family support "and understand how students are engaged at campus as well." (UoW_01). At a faculty level, students are grouped to establish social networks which are drawn on for other activities throughout the year and a "successful institution-wide peer mentoring program as well that engages students" (UoW_01) across the university.

University of Wollongong tracks equity student progress both for the benefit of the equity team and its decision making and for the benefit of students that might need additional support.

...we monitor the progress of low SES and aboriginal and Torres Strait Islander students throughout their degree. (UoW_01)

However, tracking or monitoring occurs in different ways for different equity groups. University of Wollongong has an active Aboriginal centre which engages fully with the Aboriginal students being recruited and supported throughout their degree.

we've seen quite a significant increase in the number of Aboriginal and Torres Strait Islander students accessing UoW because of the work of our Indigenous Centre and in the past two years in particular. There's been a whole range of new support services and tools that are put in place by the Indigenous centre that is really making a significant impact on retention. (UoW_01)

University of Wollongong has found that while they have issues around retention in general, this is no more or less related to their equity students.

With our low SES student cohort, we find that their performance is on par with other cohorts, high SES cohorts. But we find that retention can be an issue and so that's where we're focusing our efforts at the moment. (UoW_01)

we monitor the retention of the equity students and I think we've run some data and the students on the equity scholarships, they have a much higher retention rate than other students who haven't had that support. (UoW_03)

Monitoring does occur more closely for those who have scholarships given to support low SES students with "four checks for each session". However, these checks have shifted from being based on "academic criterion" to "being enrolled" as the main criteria. Tracking involves a range of things but appears to be based on wanting to support their progress rather than purely checking they are doing the right thing.

...we check students' grades, their enrolment, and we communicate with them where they're not meeting criteria, and often you can pick up, I guess, if they're having issues and academic issues or having scholarship issues. We usually refer them on to the appropriate support services. (UoW_03)

what we're seeing is that there's usually more applications for equity scholarships than funding to award to these students. So, we're monitoring the ones that we have awarded to. (UoW_03)

When support is identified as a need, University of Wollongong offers this to its whole student cohort, both equity and non-equity groups, rather than targeting particular individual students or student equity groups for this support. These interventions are designed to sit within course work and can therefore be offered to all. One example of this can be seen in the way orientation and ‘boot camp’ are offered.

... we tailor orientation day to suit what the students have been telling us, what they wish they’ve had on that particular day. But we also do a boot camp. [...] in the first week of classes, the actual tutorial content is changed up a bit and it’s all about transition work. [...] they’ll have their lecture content but the tutes are tailored around academic skills, academic integrity, going back over using Moodle....so, that’s how we treat everybody the same. Everybody gets that— because I think it’s important not to single people out. (UoW_02)

Tackling interventions by singling out low SES students has been described as a “messy” issue in the past. It was based on applying very general small statistical area data, which may not apply, rather than looking at individual circumstances. It also took a deficit approach which the university has been working to overcome.

... Students won’t often know that they’re low SES or even identified as low SES students. They just understand that they’re getting targeted for something that another student is not. And we also thought that approach was quite a deficit model because we’re assuming that low SES students need something – need academic support and they may not. So, we grappled with that and had a lot of institutional discussions around that. So, what we actually do is put the interventions where we know the students are. We know, for example, that the percentage of [...] students from the Bachelor of Arts is ten percent higher than our institutional average for low SES students. So, we embed the interventions into the curriculum, so it doesn’t feel like students are being targeted or ask to do extra, particularly when we know that they’re time-poor. That way, all of the students in that course also get the benefit of the work that we’re doing. Everything is designed on the basis of equity principles but available to everyone in the course. (UoW_01)

The university recognised the deficit-based understandings that have been drawn on to establish previous practices and has moved to adapt its thinking and designed programs to match. What this doesn’t recognise is that this type of practice further disadvantages already disadvantaged populations by assisting already advantage populations.

University of Wollongong staff also recognised the university’s reliance on committed people both in leadership positions and in general, in order to have successfully functioning equity programs. They saw policy as not particularly effective without these people, and a certain amount of funding, driving, and sometimes reinterpreting, the implementation of university policy and procedures.

So we’ve got institutional policies and procedures that I don’t think respond to the needs of equity students and that relies on the individual staff members who are at the coal face with the students to interpret those policies, and then the response that students get is very wide and varied to be honest. (UoW_01)

I think we had quite an ad hoc fragmented approach up until that point...it was reliant on the goodwill of staff to get there. [...] We’ve got significant buy-in from the senior executive and all of the faculty executive as well, and there’s a genuine commitment to address that and I think that comes from a number of factors. I think where we’re located as a regional

university, a lot of our staff have genuine commitment in the local community, so I think that's one thing. Also I think the introduction of things, like discussions around performance indicators, funding and stuff associated with that to motivate people to work with local community to students. So I think what we're seeing is really an amalgamation of those two things at our institution and we've got quite significant buy-in in the frameworks as well. (UoW_01)

11.5 University of Melbourne

The University of Melbourne represents a traditional university model of enrolment and course delivery with the majority of its students admitted based on school results and having low attrition rates. Low SES students make up a small percentage of the student body. For this university, the interview and document data about non-traditional students were focused on the indigenous community.

11.5.1 *University Governance*

Overall, the university governance of low SES and indigenous admissions and support services at the University of Melbourne can be described as centralised with strong links to academic divisions, graduate school and faculties. Policy development processes were described as participatory with input actively sought from staff and students and leadership described as committed. Figure 11.4 shows how the centralised nature of support at this university is strongly linked across the university and beyond.

11.5.1.1 **Consolidated University Plans Have Been Streamlined, Yet Contain Detailed Information**

This university has recently consolidated and streamlined its various plans enabling the faculties and graduate school to easily access detailed information to provide targeted support. This was described as a beneficial action by an interview participant.

So, we had so many plans, it's unbelievable. We used to have 30 at the divisional level an indigenous employment framework, an indigenous student plan and a research framework for each of the 10 faculties and graduate school. And then above that we had university-wide plans, employment, students and research. And then above that, the university-wide reconciliation action plan. But recognising that there's an overlap between indigenous students and indigenous staff and research, that's all been consolidated into a single plan from this year and some of them are really – I mean, they're excellent plans, but just being able to provide the academic divisions with that really detailed information and information that's been gathered over quite a significant number of years so that they can examine trends has been really important. (MEL_01)

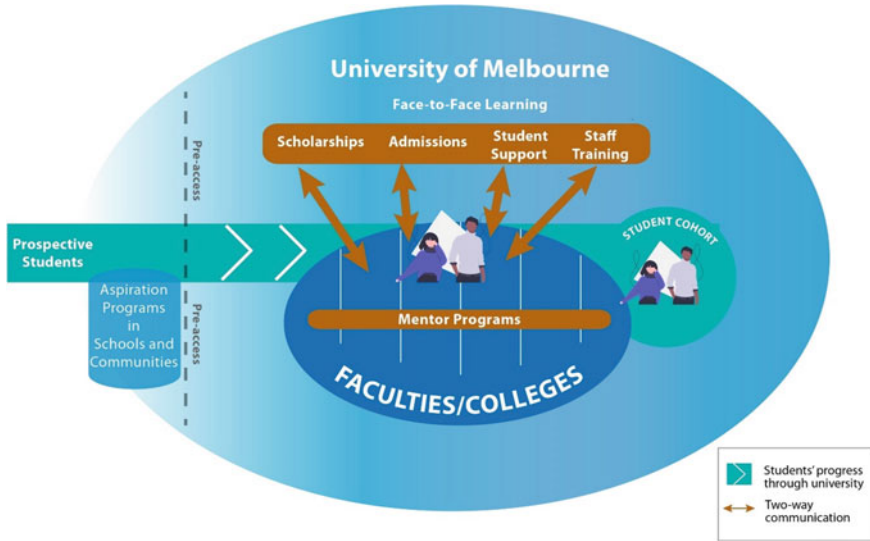


Fig. 11.4 University of Melbourne admissions and support services

By streamlining and consolidating plans, the academic divisions are now able to easily access highly relevant information with ease and focus on providing specific, quality support.

11.5.1.2 Participatory Policy Processes

Participatory policy development processes can be time consuming, but these processes result in increased communication and improved implementation. This university has used highly participatory processes to develop policies and procedures, including staff, students and reference groups composed of people external to the university. For example, one interview participant described the process used for developing the university's Elevate Reconciliation Action Plan

We had a 12-month project, the develop our Elevate Reconciliation Action Plan. So, we actually engaged in a really extensive consultation process. We consulted our indigenous leadership, of course, our indigenous academic staff, indigenous professional staff, and also separately our indigenous graduate students, indigenous undergraduate students, our 360 plus academic staff that were engaged in research into indigenous issues. Then we opened the consultation process university wide. So, we know that more than 800 people engaged with the development of our Reconciliation Action Plan. And we also have a traditional owners and elders reference group who guide our reconciliation efforts and who provide us with a lot of cultural authority. (MEL_01)

Notably, this participant went on to explain that the process used for the Reconciliation Action plan was not unique and that participatory practices were common at this university.

We have indigenous students on a range of committees. We have students on university council and university – our academic board and the university council report. At the moment, it just happens to be an indigenous graduate student. So, I think you could say that staff and students are very deeply involved in reviewing policies and procedures across the institution. (MEL_01)

11.5.1.3 Committed Leadership

In addition to participatory processes, this university has leadership that is highly committed to supporting the university's indigenous community.

We had a new vice-chancellor just last year, early last year, and he's from the UK but he's absolutely highlighted our indigenous priorities as really important priorities for the university. ...He meets regularly with our indigenous leadership. Our traditional owners and elders gave him a formal welcome to the Wurundjeri lands where the university's Parkville campus is located. So, yes, he's got our strategic priorities in the indigenous base very high up on the university's agenda. (MEL_01)

This university submitted policy documents for consideration in addition to interview data and this commitment to prioritising is seen here as well. For example, the *2017–2019 Indigenous strategy highlights* document identifies the development and recognition of Indigenous leadership and the recognition and advancement of Indigenous knowledge and perspectives as a cornerstone to the strategy itself. There shows that there is alignment between policy and practice at this university.

11.5.2 Pre-access and Access

As in the cases above, this section will examine what Bennett et al. (2015) describe as the pre-access and access stage of the student life-cycle. This encompasses outreach efforts to potential university applicants through to admissions processes, including various pathways for admission. At the University of Melbourne, high achieving students are selected for admission and as such, the university sees very low attrition rates. As with university governance, the access to this university is streamlined and a clear map for admissions is easily available to potential applicants on the university website. Scholarships are recognized as being a key to success for students from equity groups.

11.5.2.1 High Achieving Students and Financial Support

The students selected for admission at this university set it apart from the others. The focus here is on high achieving students, regardless of socioeconomic background. However, the university recognises that financial support is directly correlated to students' success and retention. As such, scholarships have been made available. One interview participant described,

Just this year, we had 26 indigenous Chancellor's scholars, so they get financial assistance and a guarantee into the graduate course of their choice if they meet the entry requirements, and these are students that come in with an ATAR of 90 or above, so they're very high achieving students. So, 26 is just an extraordinary number. (MEL_01)

This participant went on to further explain the importance of financial support.

I think financial support for indigenous students is still an issue and, as I've said earlier, we've actually demonstrated the positive correlation between financial support and student's success and retention and going on to a high degree outcome. (MEL_01)

In addition to providing financial support, the University of Melbourne has made it a priority to ensure that high achieving students are able to access the university with a Special Entry Access Scheme and scholarships.

There's a lot of information on the university website about Special Entry Access Scheme and scholarships. So, we have a Melbourne access program which undergraduate students and graduate students can apply to. The social inclusion barometer, ...demonstrates that something like 20% or 30% of our students come in through that access scheme, which is for students who have been disadvantaged in some way. (MEL_01)

We're elite, but we're not elitist. We have...close to the high 30% percent of students coming in through that scheme. (MEL_01)

This participant went on to explain,

we have a Bachelor of Arts extended and a Bachelor of Science extended to degree and those degrees are four-year bachelor's degree. So, in the first year, student would do a range of transition subjects and then – as well as just the normal course requirements of an art or science degree. The difference being they're supported in a cultural sense with their transition into the university, which is quite traumatic for some of them given that they are coming from interstate and often from remote areas of the country. But yes, they actually end up with a normal Bachelor of Arts to a Bachelor of Science degree. But entry into those programs is with a lower ATAR than would be expected for the BA or the BSC three-year program, but we've had huge success. We've had some of our BA extended students go on to PhD. We've actually got a Research Higher Degree cohort at the moment of 54, which I think could be – must be one of the highest in the country. (MEL_01)

11.5.2.2 National Indigenous Recruitment Strategy

Finally, this university has prioritised the recruitment of indigenous students with its national indigenous recruitment strategy and other supporting programs. A variety of access pathways are available for indigenous students and scholarship programs have been expanded to attract indigenous students and provide them with financial support.

I think some of the other significant things are the fact that we have a national indigenous recruitment strategy. (MEL_01)

11.5.2.3 Providing Information for Students and Facilitating Connections

Finally, communication and creating connections prior to a student's arrival on campus is a priority. Staff explained that these interactions with students are highly personalised and tailored to each student's individual needs. Students meet one on one with advisers rather than referring to modules on a website.

We also we do a lot of school visits in - before students actually arrive here. There's a course of Student Services Expo in December which is designed to tell students about university life... They can have a one on one appointment with someone to talk about entry requirements, what the degrees entail, group study going on, post-graduate study, learning about things like industry placements, study more in exchange and also accommodation and other support services. And then when they come here, we've got a welcome day and orientation week activities, a lot of our student services workshop. And we have a unit what's called the Student Connect and students can make appointments with a Student Connect adviser to get tailored advice about what success might look for a particular student. They talk to them about what their goals and aspirations are, developed an individualised action plan and a clear method passage to realise their goal. So that's not so much about course advice, it's more about the holistic – yeah. And next year, in semester one, we're implementing a peer mentoring initiative which is focusing on students' social connection. And then in semester two of the next year, an academic advising initiative will be implemented, which focuses on students' academic choices and that will involve students meeting with academic staff. (MEL_01)

11.5.3 Practice

University of Melbourne practices related to admissions and support services for equity groups seem to draw on three main principals: robust mechanisms for monitoring and tracking, providing culturally appropriate support and awareness raising.

11.5.3.1 Extensive Monitoring of Indigenous Students and Staff, Teaching, Research

Staff at this university provided details of robust a monitoring program that includes indigenous students' education outcomes, indigenous research outcomes, teaching and learning outcomes and indigenous staff outcomes measurement frameworks.

we developed ... an indigenous outcomes measurement framework which, at the time, he told me was the most sophisticated framework in the sector. And what we do is we carefully monitor a range of indigenous students, indigenous staff, indigenous teaching and learning and indigenous research outcomes. So, we developed a matrix ... and we report annually against a range of measures and we've been doing that in 2013 with the more sophisticated framework implemented in 2015. So, we've got a really comprehensive evidence base through which we monitor a range of outcomes, including student outcomes. It's actually been – it just provided incredible information. For example, we were able to demonstrate a

positive correlation between the extent to which indigenous students receive financial support and their success, retention rate and progression to graduate study. We're able to demonstrate that our indigenous high degree coursework students went on to RHD enrolments in a higher proportion than their non-indigenous students. So, it's just a very extensive database and we use it to identify our challenges and suggest, sort of, areas that the university really needs to look at in terms of improving outcomes. (MEL_01)

We get a lot of the data from a range of sources ourselves and we also seek information from faculty around the number of on-country learning opportunities there might be for students, the number of subjects that are in cooperation with indigenous cultural collections in their curricula, but all the data, we actually provide to faculty. Faculty all have divisional indigenous development plans people, 10 of them, and [we] met with the deans and senior executives of every faculty at the beginning of last year and provided them with faculty-based data across the range of measures; students, staff, teaching and learning and research, and then worked with them to develop indigenous development plans that were appropriate to their particular context. (MEL_01)

11.5.3.2 Focus on Developing Leadership Skills for Students

In addition to monitoring students' performance, this university moves beyond providing basic academic skills support. For example, the development of leadership skills for indigenous students are prioritised.

Also, we have – we're focused more not just on numbers of indigenous students, what we're looking to, as Marcia would say, produce the next Prime Minister of Australia or President of the World Bank. We're focusing on leadership. We have an undergraduate leadership program in the Arts faculty where we identify students with leadership potential and provide them with a range of mentoring throughout their degree and scholarship support. So, we're interested in student's outcomes beyond the university, whether that's them going into a graduate degree or employment. (MEL_01)

11.5.3.3 Culturally Appropriate Support

The University of Melbourne has made a concerted effort to provide culturally appropriate support to their indigenous students. This is for undergraduate students as well as PhD students.

The other sort of support for indigenous students are, of course, through the HEPPP program, and in Murrup Barak, we have an indigenous student success team and they provide a culturally appropriate support to our indigenous students, just looking after their general wellbeing, financial assistance and putting them in touch with community and cultural engagement opportunities. So, they're absolutely critical. (MEL_01)

We've implemented a range of programs such as the PhD Familiarisation Program for indigenous students. (MEL_01)

11.5.3.4 Awareness Raising and Training Opportunities for Staff and Students

Finally, another area identified by staff as an area of concentrated effort was awareness raising and training opportunities for both students and staff.

We've got a Reconciliation at Melbourne Network, which we established last year, which has now got over 100 members. And that's a network that's designed to bring together people who are interested in reconciliation and learning more about the university's indigenous priorities and really up-skilling people because there is varying degrees to which our staff are, culturally aware. (MEL_01)

11.5.3.5 Innovative and Unique Training Opportunities for Staff

In terms of training opportunities for staff, the University of Melbourne has moved beyond online modules and is focusing on innovative and engaging training options. One such program is the Melbourne Indigenous Professional Employment Program. One interview participant explained

We offer our staff opportunities to become mentors for the Melbourne Indigenous Professional Employment Program, which is a program that involves recruiting indigenous professional staff invariably at the more junior levels, and we offer them a certificate for a course in leadership and administration. And then they have had three secondments across the university following which the university works very hard to find ongoing employment. And in fact, that program has been instrumental in increasing our indigenous staff numbers. All this is relevant because if we have a critical massive indigenous staff that has a profound positive impact on our indigenous student. (MEL_01)

In another program, staff are seconded to indigenous organisations. This has given University of Melbourne staff the opportunity work within indigenous organisations.

We were the first university to sign up to ...an organization which places high potential staff from corporate Australia and, now, the University of Melbourne, in indigenous organisations. And these staff go and work six weeks at the university's expense, working on a project which might be helping them develop office procedures, helping them implement mechanisms to better manage the huge number of research applications from universities or other universities they might get. You know, noting that indigenous people and the indigenous Australians are the most researched people in the world. Yeah, just a range of things like that. So, we've exceeded our number of secondees and the learnings have just been profound. The secondees are expected to come back to the university, share their learnings, and get involved in supporting the university's indigenous priority. (MEL_01)

In order to further facilitate network building and connections, the university has created a community of practice.

We've also established a teaching and learning indigenous knowledge and community of practice as a way of getting people together to talk about how to invade indigenous knowledge in the curriculum. We have launched an Indigenous Knowledge Institute, which is the first of its kind in the country. We're currently recruiting for director of that institute. (MEL_01)

One final example of how the University of Melbourne is engaging in meaningful cultural recognition across their campus is in the use of the built environment/physical campus to raise cultural awareness and create connection.

We recognise that the university could be a more welcoming place for our indigenous students and staff. So, we, for example, in our new student precinct project have worked with students from more than 40 different indigenous language groups to [bring] back the landscape to pre-colonial times. There's a waterway just a – And I thought if there's a waterway that

runs under the university or there used to be a creek and it's been built over, and there are parks there now. But it used to be an eel migration route. So, the eels would make their way underground and through billabongs and rivers out to the Coral Sea. And now they still do that in the pipes that run under the university and down – Elizabeth, straight into Port Phillip Bay. They swim up to the Coral Sea, spawn and their babies come back and just go back under the university. So, that's part of a new student precinct project when paring back that landscape and recreating the waterways and developing – we're kind of developing an indigenous narrative for each of our campuses. We're located on the lands of four different indigenous groups and we're going to develop an appropriate narrative for each of them. So, we're doing a lot of work in the built and natural environment to ensure that indigenous heritage is represented in a meaningful way. (MEL_01)

11.6 Student Experience of the System

This section analyses the design and features of admissions practices and support services and practices in light of each universities' student body demographic and study pattern characteristics, student interview data and literature reviewed in Chaps. 2 and 8.

11.6.1 *The University of Tasmania*

The University of Tasmania is the furthest toward the contemporary university model end of the spectrum of the four universities. Of its student body, over 70% are not studying on campus, a similar proportion are admitted on a basis other than secondary results, and over half are studying less than full time. Of the four, the University of Tasmania has the most students aged over 24 (44%), living in outer regional or remote locations (40%) and of low SES (24%) (Chap. 4). The quantitative modelling (Chaps. 4 and 10) suggests that it is the combination of the demographic and study pattern characteristics of student body that explain the University of Tasmania's highest attrition rate of the four, 28.5%. The University of Tasmania student stories illustrate the experience of those 70% studying online (see Chap. 5).

The student interview data highlight that many students have had prior experience of university study; though often this was not successful experience. These students drew on that experience as they negotiate their learning journey. Non-completers are very likely to return (Harvey & Szalkowicz, 2017), however, there is no evidence that non-completers are targeted by admissions policies and practices. The short Unistart preparation program is mentioned as useful for those without previous university study experience. The dominance of 'second try' university learners in the non-secondary school admissions pathway may account for the paucity of mentions of accessing central or school/faculty level support. A large proportion of 'second try' university learners is a feature of the cohort of students from regional and remote locations (Barnes et al., 2019). Forming, finding or setting up informal peer support

groups is a consistent feature of the University of Tasmania narratives. Peer support groups appear to assist students to navigate the complex learning and learning system, particularly for those whose family friends and workmates do not have university experience (Devlin & McKay, 2018; Mills & Gale, 2007). While not all students seek out, or need peer support groups, there is evidence that online unit design can facilitate peer-peer connection in the data (Chaps. 14 and 17).

The University of Tasmania admission practices are weighted toward giving potential students the chance to try university despite not having the traditional academic background that universities at the traditional end of the spectrum demand. Admission practices are supported by findings of the quantitative modelling (Chap. 10) which suggest it is difficult to predict which students will and will not be retained and succeed at university. There is a disconnect between admissions practices and support services and practices, which overall do not reflect the needs of the student body that is the outcome of admission practices, with large proportions of online, part time, geographically distant (commuting long distances to campus) and mature aged learners. Despite the University of Tasmania having the highest proportion of low SES there was no mention by staff in the university interviews of targeting financial support such as scholarships. The University of Tasmania does not actively track low SES or regional and remote students, and so does not target them for support with academic language which has been found to be beneficial (Priest, 2009), nor for the supports such as orientation, digital literacy and transparency in computer mediated communication that Bawa (2016) suggest assist retention of online learners.

The characteristics of the student body suggest they are unlikely to seek social support from universities, rather having established external support networks, and this is confirmed by the student interview data (see Chap. 7). There appears to be an expectation that students will attend a non-academic support service on campus, despite being enrolled online (see Chap. 12).

The student interview data showed that these students tend to be highly motivated to succeed, but time poor, with family and work competing for time with study. The older, online students and their external, non-university social support networks may not be familiar with the kinds of academic and non-academic support services that universities offer (Devlin & McKay, 2018; Mills & Gale, 2007). They may not have the time in their busy lives to prioritise investigating available support, even if they have received a general email about support services, nor time for deep, proactive support seeking behaviour. While units with higher numbers of at risk students are targeted for communication, consistent with universal design (Kilpatrick et al., 2017), it is still up to the student to recognise their need, match it to a particular support service and initiate contact. Although university interviewees spoke of targeted phone calls, there was no evidence of these in the student data. It seems that the centralised support services are to all intents and purposes obscured from view for many 'contemporary' online students.

Academic and pastoral support from teacher-student interactions was reported very positively by online students (Chaps. 14, 15 and 16). Teacher support was multifaceted, meeting needs in a responsive, approachable and easily accessible way

(Chap. 12). Given the apparent key role of teachers in facilitating retention as well as academic success for an online student body, it is somewhat surprising to note the absence of mention of learning and teaching training and support for teaching staff in the university perspective data (Bawa, 2016; Thomas, 2014), although training in mental health first aid and responding to disclosure were mentioned.

11.6.2 Griffith University

Griffith University sits around the middle of the spectrum of university enrolment and course delivery models from traditional to contemporary, as a contemporary model for a metropolitan university. Of its student body, just less than 10% are not studying on campus, but over half are admitted on a basis other than secondary results, and 14% are studying less than full time. Of the four, Griffith has the second largest proportion of students aged over 24 (24%), living in outer regional or remote locations (6%) and a similar proportion of low SES to Wollongong (14.5%). The quantitative modelling suggests that, as for the University of Tasmania it is the combination of the demographic and study pattern characteristics of student body that explain Griffith University's second highest attrition rate of 19.3%.

Admissions policy at this university which targets particular low SES schools is linked to transition by outreach to these schools and support for the school students through orientation activities which can lead to useful support contacts.

The Griffith University student interview data illustrate the experience of school leaver students studying face to face on a main campus as well as online and older students. The interviews provide detailed analysis of service awareness help and seeking behaviour. When comparing the university perspective with the student experience based on student interviews of both online and attending students, it is pertinent to note that students who volunteer to participate in studies such as this are less likely to be time poor, with the many external commitments typical of mature age students, and so volunteer interviewees are more likely to align with proactive, deep approach to help seeking.

The Griffith University institutional perspective notes a centralised but interconnected service support structure, with an emphasis on monitoring student access to services and engagement with their learning and on monitoring relationships between retention, service use and learning engagement. There has been a recent change in leadership and in the structure and service design toward universal design, moving toward acknowledged good practice (Kilpatrick et al., 2017), so the student narratives will partly reflect experiences of the previous structure. Analysis of student interviews suggests some level of student awareness of services, for example: an expressed intention to have a mentor, or suggestion from a tutor or family that a student should seek help yet contact with a mentor or support services was not reported. The institutional perspective shows that Griffith University now invests heavily in communication to students, but despite their best intentions, many students have not heard the message that the services are 'for me', at the time 'I need them' and available in a form that

‘suits me’ (Cain et al., 2003; Owens et al., 2009). This applies especially for online students. It may be that this will change once the new service structure is bedded down.

The university interviews emphasise student input used in design and ongoing review of services. There is no mention of this in the student qualitative data: again, it is perhaps too early.

11.6.3 University of Wollongong

Like Griffith University, the University of Wollongong sits around the middle of the spectrum of university enrolment and course delivery models from traditional to contemporary. All of its student body are studying on campus, but almost 30% are admitted on a basis other than secondary results, and 18.5% are studying less than full time. Wollongong has 18.1% of its students aged over 24, but only 2.6% living in outer regional or remote locations. It has a similar proportion of low SES students to Griffith University (14.6%). While its attrition rate of 10.2% is lower than that of either University of Tasmania or Griffith University, it is considerably higher than the University of Melbourne’s.

The University of Wollongong student interviews illustrate the experience of students on its regional campuses, which are located in areas classified as inner regional and attract a student body with a greater representation of students who are mature aged, part time and not admitted on the basis of secondary school results than the Wollongong student body as a whole. The interviews show how this more diverse student cohort values and benefits from face to face contact with peers, support services, academic and administrative staff on campus. The small size of the campuses appears to make interaction simpler, and foster ‘incidental’ contact with staff who not only may help directly, but also know the people (not just the email or website) that could assist students further. These person to person ‘warm connections’ appear to suit time poor students from the now more diverse student body who are often unfamiliar with support services that a university might offer.

The institutional perspective matches the experience of the regional campus students. The institutional perspective is of a distributed and holistic approach to support and a culture that ‘everyone’ is responsible for equity, with committed, coordinated leadership. There is a culture of use of both data and student voice in developing and monitoring services and learning design, although as for Griffith University, student involvement was not mentioned in the small number of student interviews. University interviews suggest there is close monitoring of support, including financial support, to ensure it is targeted effectively.

The structure of support services has recently changed and is not yet bedded down. It may be that the ‘warm connections’ formed on campus between students and staff, and communication between staff who know the people in support services help protect students from any challenges of navigating a new service structure where acknowledged gaps still exist. Inclusive pedagogy and universal design principles

of embedding support into the curriculum is consistent with good practice (Gale & Mills, 2013), opportunities for building connection for students and a website that university interviewees are positive about as a communication tool are features of good practice in facilitating retention and success. The relatively low attrition rate in the recent past suggests that Wollongong has been able to provide teaching and learning and support services which align to student needs.

11.6.4 University of Melbourne

The University of Melbourne sits at the traditional of the spectrum of university models. All of its student body are studying on campus, and only around 12.8% are admitted on a basis other than secondary results. Of its students, a similar proportion to the University of Wollongong are studying less than full time (19.4%). Few students are aged over 24 (3.9%), only 2.5% live in outer regional or remote locations and only 6.4% are low SES. The University of Melbourne's attrition rate of 1.9% is by far the lowest of the four universities. This section analyses the design and features of the University of Melbourne admissions practices and support services and practices in light of its student body demographic and study pattern characteristics only, as no qualitative student data were gathered from the University of Melbourne.

University perspective interviews state that Melbourne is elite, but not elitist. The Melbourne student body is 'traditional', mainly admitted on the basis of (high) secondary school results, and more homogenous than those of the other universities in terms of demographics and study patterns. Institutional data show that Melbourne considers diverse student needs, for example its Indigenous admissions policy is linked with support program, including scholarships, monitoring and culturally appropriate support during study that could be expected to assist retention and success (Wilks & Wilson, 2015). Because students are all studying on campus, incidental contacts with services and 'warm connections' between staff and students increase the chances that students understand that services are 'for them' and more likely to access the supports they need.

11.7 Cross University Comparison

The table on the following page compares the admissions and support services of the four universities. It is arranged first according to university governance themes drawn from the data, then, to capture influences on the student experience, according to student lifecycle. The student lifecycle section of the table draws on the Equity Initiatives Framework developed to highlight critical points and associated principles for interventions to improve outcomes for Australian equity group students by Bennett et al. (2015) (Table 11.1).

Table 11.1 Summary of university admissions and support practices for each university

	University of Tasmania	Griffith University	University of Wollongong	University of Melbourne
University Governance				
Structure	Centralised support with limited support in colleges/schools	Roles separated, but working together	Responsibility distributed, but gaps in collaboration	Centralised with strong links to academic divisions, graduate schools and faculties
Policy development processes	Ad hoc, still in planning stages, data driven by quantitative 'business intelligence' data	Participatory, input actively sought from staff and students	Participatory, involves faculties and students	Participatory, consolidated plans have been streamlined
Service design philosophy: alignment with universal design principles	Not aligned: students expected to identify own needs and services that match these needs	Recent intentional move towards universal design	Staff relationships help to join up distributed services; students assisted to identify the services that meet their needs	Comprehensive indigenous support services, moving towards universal design
<i>Admission and support service leadership</i>	No mention	New leadership, strongly committed	Reliance on committed staff	Strongly committed leadership

(continued)

Table 11.1 (continued)

	University of Tasmania	Griffith University	University of Wollongong	University of Melbourne
(1) Staff training	Focus on student mental health	Training for academic and professional staff as well as contractors	Centralised mentoring program for staff, training for staff and students to support equity groups, cultural competency	Innovative training opportunities, engaging and move beyond online modules
<i>Student Lifecycle Phase*</i>				
Student body characteristics	Contemporary; highest proportions online, part time, non-school admission basis, mature aged, outer regional and remote, low SES	Toward traditional end of demographic and study pattern spectrums, but over half admitted on basis other than school results	Middle on demographic and study pattern spectrums, exception is all studying on campus	Traditional, vast majority on campus, full time, school leaver admission, not outer regional or remote, not low SES
(a) Pre-access and access				
(i) <i>Recruitment focus</i>	All Tasmanians focus of recruitment	Active, targeted low SES recruitment, including interstate 'locals'	Equity groups not prioritised due to proximity of campus to low SES communities	High achieving students selected for admission, including high achievers from equity groups
<i>Admissions routes</i>	Many non-school admission basis	Several schemes to support low SES and 'first peoples'	Many alternative admissions pathways for equity groups	Clear map for applications, scholarships important
<i>Practice</i>				
<i>Monitoring of admissions, support and retention of low SES and other equity groups</i>	Unable to identify individual low SES students	Robust and continuous monitoring of students	Limited, but individual student progress tracked	Extensive monitoring of indigenous students as well as indigenous staff, indigenous curriculum, indigenous research

(continued)

Table 11.1 (continued)

	University of Tasmania	Griffith University	University of Wollongong	University of Melbourne
(2) Support	Targeted support difficult to provide to low SES students	Centralised and linked inquiry management framework, allows seamless triage of students	Flexible, holistic with courses, rather than students, targeted for embedded interventions	Culturally appropriate
<i>Facilitating connections</i>	Phone calls and Facebook live events	Broad variety of peer-to-peer mentoring opportunities	Building connections for students AND their families	Using built campus environment, awareness raising, building connections a high priority
<i>Communication</i>	Focus on one way dissemination of information to both incoming students and staff	Strong two-way communication within university	Focus on engagement, building connections	Info readily available on website, clear map for potential applicants
<i>Website</i>	This website is very hard to navigate. Information is dispersed and in a variety of formats, so it is hard to compare options. Also, it is not easy to determine who to speak with if there are questions. Generic email addresses are occasionally provided	Admissions pathways clearly explained and easy to access. Clean, straightforward website. Easy to access a wide variety of clearly labelled support options. Online support and self-assessment tools promoted	Website straightforward and easy to navigate for admissions purposes. Support services directory easy to find. Focus on online support, apps and external support organisations. Difficult to find the actual support. Many layers to click through	Clear, simple, streamlined admissions information easy to access. Very easy to access all support services with option of first point of contact via phone, email or live chat

(continued)

Table 11.1 (continued)

	University of Tasmania	Griffith University	University of Wollongong	University of Melbourne
Admission and support services and practices and student body needs				
<i>Universal design</i>	Admission practices reflect principle of universal design, resulting in a contemporary student body. Service design and practices expect students to have the navigational capacity associated with a traditional student body (especially time and understanding of what to expect from university services)	Transitioning toward integrated, universal service design	Admission practices reflect some universal design principles. Pastoral care and academic services are responsive, personalised and can be mediated and triaged by people rather than demanding students navigate digital platforms	Traditional model admissions practices result in a relatively traditional student body well matched to traditional pastoral care and academic services which have been tweaked to cater for some diversity
<i>Alignment of services and practices with student body needs</i>	Mismatch between pastoral care and academic services and practices toward the traditional end of the spectrum and the contemporary student body	New service design would be expected to align with student body demographic and study pattern characteristics that are between traditional and contemporary	Align with demographic and study pattern characteristics of student body, which is between traditional and contemporary	Traditional service design and practices align with traditional student body
Unique practices/themes/overall/other	Heavy reliance on business intelligence data, ad hoc service design	Monitoring and connections	Families as support, embedded interventions	Built campus environment, engaging training

Note * Bennett et al. (2015)

11.8 Features of Good Policy and Practice

The following features of a student centred support service design that takes account of the demographic and study pattern characteristics student body emerge from analysis of the four university case studies.

- University support service structures and practices are more effective when they align with the demographic and study pattern characteristics of their student body, and course delivery model.
 - o Support services should be aligned with admissions policy and the characteristics of the student body which are a consequence of admissions policy and practices.
 - o Universities at the contemporary end of the spectrum must recognise that the student body they attract is not necessarily wanting or needing to ‘integrate’ into a traditional model. Universities need to change their idea of both academic engagement and support services and practices to accommodate the ‘contemporary’ student.
 - o Particular attention should be paid to alignment of financial support; academic supports that address common gaps in preparedness of the diversity of recruited students; and, where applicable services that are approachable and readily accessible online, at regional campuses, and by mature age students.
- Universities which operate under a whole-of-university inclusive framework covering curriculum, pedagogy and academic and non-academic support services that draws on the concept of universal design will improve learning engagement and service approachability and accessibility for all students.
 - o Committed and respected leadership reinforces practices associated with an inclusive universal design framework at all levels within a university.
 - o Communication with students must be appropriate for students of all ages and study modes.
 - o Mechanisms to facilitate communication and interpersonal relationships among support staff and between support staff and both academic and professional staff with whom students may interact online or in person are important to coordinate services and assist students navigate them.
 - o Regular training for recruitment, admissions and support service practitioners and other staff with responsibility for supporting and advising students is essential.
 - o Academic staff are key to student retention and success, particularly for online and mature age students. Universities should develop a staff training and awareness communication strategy and ensure sessional staff are included. Training should include inclusiveness and universal design principles and practices.
- Constant restructure can detract from success—incremental change that builds on existing structure is an alternative.

- Ongoing monitoring of service use and impact on retention and success using both quantitative data and student feedback leads to more response services that better match the needs of the student body. Services should be regularly reviewed in light of monitoring data.
 - o Monitoring results should be presented through two lenses (i) student demographic and study pattern characteristics and (ii) university structure of courses, units and campuses.
 - o Support services and practices must be evaluated holistically from the student perspective using participatory process that include students representing the diversity of the student body; academic and support staff; and quantitative data and student feedback from ongoing monitoring. Current research on best practices in service delivery and design must be considered.
- Seeking out opportunities for sharing good-practice and data, such as conferences and professional associations, and for collaboration between universities, for example, through benchmarking, facilitates incorporation of features of good practice into university policy and practices.

11.9 Conclusion

The four universities operate in different contexts, deliver learning at different points along a spectrum from wholly face to face to largely online. They attract student bodies with varying degrees of diversity in terms of student demographic characteristics and choice of study pattern. Analysis of university admissions and support service policies and practices in relation to the student experience suggests the ‘best’ service design structure is much more complex than choosing between centralised and decentralised support services. Rather the ‘best’ design is based on universal service design principles, is student centred and considers where the institution is on the spectrum to contemporary to traditional: that is its course delivery model and the demographic and study pattern characteristics of its student body. There are useful lessons here for universities grappling with providing effective student support in the post-COVID-19 environment.

References

- Barnes, R. K., Kilpatrick, S., Woodroffe, J., Crawford, N., Emery, S., Burns, G., & Noble, M. (2019). *Regional communities’ influences on equity participation in higher education* (p. 78). Curtin University: National Centre for Student Equity in Higher Education.
- Bawa, P. (2016). Retention in online courses: Exploring issues and solutions—A literature review. *SAGE Open*, 6(1), 215824401562177. <https://doi.org/10.1177/2158244015621777>

- Bennett, A., Naylor, R., Mellor, K., Brett, M., Gore, J., Harvey, A., ... Whitty, G. (2015). *A review of evidence of impact: The framework*. Curtin University: National Centre for Student Equity in Higher Education. Retrieved from National Centre for Student Equity in Higher Education website: https://www.ncsehe.edu.au/wp-content/uploads/2018/06/23_UoN_AnnaBennett_Accessible_Part1_PDF.pdf
- Burgstahler, S. (2009). *Universal design in education: Principles and applications* (p. 6). University of Washington.
- Cain, D. L., Marrara, C., Pitre, P. E., & Armour, S. (2003). Support services that matter: An exploration of the experiences and needs of graduate students in a distance learning environment. *International Journal of E-Learning & Distance Education/Revue Internationale Du e-Learning Et La Formation à Distance*, 18(1), 42–56.
- Devlin, M., & McKay, J. (2018). Facilitating the success of students from low SES backgrounds at regional universities through course design, teaching, and staff attributes. In M. Shah & J. McKay (Eds.), *Achieving equity and quality in higher education: Global perspectives in an era of widening participation* (pp. 73–95). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-78316-1_4
- Fischer, F., Miller, G., & Sidney, M. S. (Eds.). (2007). *Handbook of public policy analysis: Theory, politics, and methods*. CRC/Taylor & Francis.
- Gale, T., & Mills, C. (Eds.). (2013). Creating spaces in higher education for marginalised Australians: Principles for socially inclusive pedagogies. *Enhancing Learning in the Social Sciences*, 5(2).
- Guest, G., MacQueen, K. M., & Namey, E. E. (2012). *Applied thematic analysis*. [Electronic resource]. Sage Publications, c2012.
- Harvey, A., & Szalkowicz, G. (2017). From departure to arrival: Re-engaging students who have withdrawn from university. *Journal of Further and Higher Education*, 41(1), 79–97. <https://doi.org/10.1080/0309877X.2015.1062852>
- Kilpatrick, S., Johns, S., Barnes, R., Fischer, S., McLennan, D., & Magnussen, K. (2017). Exploring the retention and success of students with disability in Australian higher education. *International Journal of Inclusive Education*, 21(7), 747–762. <https://doi.org/10.1080/13603116.2016.1251980>
- Lenette, C., & Ingamells, A. (Eds.). (2013). From “chopping up chicken” to “cap and gown”: A university initiative to increase pathways to employment for skilled migrants and refugees. *Advances in Social Work and Welfare Education*, 15(1).
- Macqueen, S. (2018). Family and social capital for the success of non-traditional students in higher education. *International Studies in Widening Participation*, 5(1), 14.
- Mills, C., & Gale, T. (2007). ‘Remind me; what’s the point of schooling?’ *Factoring back in the influence of changing economic, political and cultural contexts*. 13. Australian Association for Research in Education.
- Owen, G. T. (2014). Qualitative methods in higher education policy analysis: Using interviews and document analysis. *The Qualitative Report*, 19(26), 1.
- Owens, J., Hardcastle, L., & Richardson, B. (2009). Learning from a distance: The experience of remote students. *Journal of Distance Education*, 23(3), 53–74.
- Priest, A.-M. (Ed.). (2009). “I have understanding as well as you”: Supporting the language and learning needs of students from low socio-economic status backgrounds. *Journal of Academic Language and Learning*, 3(2).
- Stake, R. (2003). Case studies. In N. Denzin & Y. Lincoln (Eds.), *Strategies of qualitative inquiry* (pp. 134–164). Sage.
- Stake, R. E. (1995). *The art of case study research*. Sage.
- Thomas, G. (2014). Closing the policy–practice gap for low-SES students in higher education: The pedagogical challenge. *Higher Education Research & Development*, 33(4), 807–820. <https://doi.org/10.1080/07294360.2013.863846>

- Wilks, J., & Wilson, K. (2015). A profile of the aboriginal and torres strait Islander higher education student population. *Australian Universities' Review*, 57(2), 17–30.
- Yates, J., & Orlikowski, W. (2002). Genre systems: Structuring interaction through communicative norms. *Journal of Business Communication*, 39(1), 13–35. <https://doi.org/10.1177/002194360203900102>

Chapter 12

Designing Learning Support Services for Students Studying in Online and Blended Courses



Robert A. Ellis , Allison Trimble, and Si Fan 

Abstract This chapter focuses on data collected from two of the Australian universities investigated in Chap. 11: one with students enrolled in a blended course design, and the other with students enrolled in a fully online course design. It is clear from the data that students studying in either mode routinely seek learning support for various reasons. For analytical purposes, such support across a university can be categorized generally as social, academic, or pastoral, although there is considerable overlap between these forms. The data revealed that students' experiences of this support may be positive or negative, depending on their perception of the support services available (deep or surface awareness), and their approach to using the services (proactive or reluctant engagement). These findings from both courses in the different universities are consistent, regardless of whether students were enrolled in blended or online course designs. They suggest that if students have a proactive approach to seeking support, then they generally have a positive perception of the range and value of the support services. Similarly, if they are reluctant to seek support, they tend to have a negative perception of the support, either on-campus or online. These results suggest that if a university designs the access to its support services with students in the online environment in mind, then a teacher can play a productive role in helping shape students' experience of the support, including the perceptions they have of it and the approaches they adopt towards it. Given that most support services are typically designed for access on-campus, an institutional rethink of the student support model for blended and online students is suggested.

R. A. Ellis (✉)
Griffith University, Brisbane, QLD, Australia
e-mail: r.ellis@griffith.edu.au

A. Trimble
Launceston, Australia

S. Fan
Faculty of Education, University of Tasmania, Launceston, TAS, Australia
e-mail: Si.Fan@utas.edu.au

12.1 Introduction

The previous chapters highlight the ongoing challenge of retention of students in Australian universities which remains a persistent problem across the higher education sector. They also suggest that part of the problem of retention is the availability of appropriate and timely support for students throughout their candidature. This chapter looks at examples of student experience of support, the way they approached seeking that support, and their perceptions of the support available in two Australian universities. These examples are useful as they suggest commonalities in the student experience of seeking support, whether they can access the services on-campus in blended course designs, or whether they can only access them online in fully online course designs.

As the remit to educate an increasingly wider section of the community is hard-wired into policy and funding by the Australian government, the needs of different categories of equity students grow. First in family to attend university, low socio-economic status, non-English speaking backgrounds, Aboriginal and Torres Strait Islanders, regional and remote, disability, migrants, LGBTIQ are examples of student equity categories that may need particular support services at university to be retained and succeed, but those services include unique requirements which make coherent support of the university student body a challenge.

The models of retention and success described in the earlier chapters are based on data from student administration systems in the participating universities. Each of those systems contains slightly varied versions of the student equity categories and so the models have made some allowance for recognizing differing student needs. However, the general move across the sector to a greater proportion of the student experience being online means that university models of learning and teaching require a rethink as to how services are delivered to all students, particularly when an increasing number of students and proportion of the experience are only likely to be able to access support services *predominantly* online.

The question this chapter considers is how should the range of models of enrolment and course delivery in universities considered in the first part of this book—including those that are predominantly face-to-face but with online components, those that are predominantly online, and all the models of course delivery in between—integrate and sustainably provide student services such as pastoral, social and academic support? To consider this question, the chapter draws on interview data in relation to the student experience of learning at two different universities.

12.2 The Problem of Student Service Provision When Learning Moves Online

The student learning literature is replete with evidence of different categories of student learning support and the challenges they face (Gillett-Swan, 2017; Hillier et al., 2018; MacCullagh et al., 2017; Mercer-Mapstone et al., 2021; Veitch et al., 2018). The research shows that universities have different categories of support for students, and that students who are studying in different modes need these strategies to accommodate to their circumstances. Although there are often relatively more mature support services to cater for the needs of on-campus students, these existing support mechanisms are not always suitable for online students. In areas where online students do not have compatible or equivalent support, student dissatisfaction and frustration appear (Wang et al., 2019). The research suggests that students studying online may require even more support than traditional on-campus students because the strategies required to succeed online are less well understood (Kember et al., 2022).

With the recognition of this mismatch, universities and other organizations have attempted to seek better ways to cater for the needs of online students. An example of an effective institutional-wide support system approach is the Lone Star College-Online system in the U.S. which provides support to over 28,000 online students and over 800 teaching staff through a range of programs. These programs include an 'Early Alert System' for all online students, advising services for fully online students, and case-management advising for first-time, fully online students who require individual support (Britto & Rush, 2013). In that example, the services were perceived to be at least comparable to support received by face-to-face students, evidenced by their wide utilization by online students as well as requests by face-to-face students to access them (Britto & Rush, 2013). A more recent example is the Student Advice and Mentorship (SAM) model newly introduced at the University of Tasmania (UTAS) in Australia (University of Tasmania, 2022). SAM identifies commencing undergraduate students who may be at risk and seeks to provide support by contacting them on multiple occasions to check their engagement, offer advice, and direct them to relevant support services. This support model was developed to respond to the observed high attrition rates at this university and is made available to all on-campus and online students.

Research highlights the necessity of support from different stakeholders as a collective effort (Muljana & Luo, 2019), with course-level support by lecturers and teaching teams being one of the most significant support channels in engaging and retaining students (Kember & Ellis, 2022). This is confirmed by research conducted in other online courses. Lee et al. (2011) surveyed 110 online undergraduate students on their perceptions of support and course satisfaction and identified three types of course-level support based on their purposes: instructional, peer, and technical. The results of this study indicate a strong correlation between students' overall satisfaction with the actual course and their perception of support. It also highlights the importance of clear communication from teachers on the types of support available

(Lee et al., 2011). Baker (2004) surveyed 145 online learners and found a positive correlation between instructor immediacy and students' affective and cognitive learning in the online learning context. In that study the finding was consistent with the relationship identified between those factors in traditional classrooms.

While there is some evidence of the types of support students may require, and even some idea of when that type of support is more likely to be required at different stages of their candidature, the retention performance of Australian universities suggests that students often do not access the right type of support at the time when they need it. While this is not likely the only reason why some students attrit, it is likely to be an important contributing factor.

The models of retention and success of the four universities in the preceding chapters show some variation, probably partly caused by differences in their delivery models. To find some similarities in the student experience of attrition and retention across this population, this chapter builds on the results of a previous study (Ellis et al., 2019) into student approaches to, and perceptions of, student support in blended course designs at one Australian university, as well as an investigation into the approaches and perceptions of student support in courses which are fully online at another university.

12.3 Previous Related Research into the Student Approaches to Learning Support

In both the previous study and in the study reported on in this chapter, the theoretical framework drawn on is commonly referred to as Student Approaches to Learning (SAL) (Biggs & Tang, 2011; Pintrich, 2004; Trigwell & Prosser, 2020). The framework offers a relational view of the learning experience such as conceptions, approaches, and perceptions of key aspects under investigation. In the previous study, the outcomes described the qualitative variation in how students perceive the type and availability of the support services provided to them during their candidature, as well as how they go about accessing those services, including the underlying intent that drives them to adopt the approach that they do.

The variables focussed on in both the previous and current study are student perceptions of the support available to them in their study and student approaches to seeking that support. Guided by the theoretical framework, the structure and associations that are investigated include the students' general positive or negative perception of the student support services available, the structure of the services provided by the universities that the student perceptions seem to identify, and the variation students report in how they approach those services, given the perception they hold of them.

The results of the previous study found that students reported on perceptions of support in their learning experience which fell into three analytical categories: pastoral, social, and academic support. Pastoral support covered services such as

counselling and mentoring services, as well as practical services such as accommodation and financial support. Social support services included things like student associations, friends at university, and other relationships outside of their classroom but connected to their study experience. Academic support services included traditional support for understanding assessment activities, and numeracy and literacy support, particularly essay writing and research strategies. Examples of contrasting perceptions of the support services in the blended course were:

They [pastoral advisors] made it easier when we did orientation. You met the people and then you got all their contacts, so then on the first day at Uni you just texted everyone to hope someone was already there. It helped a lot because with – having dyslexia and always feeling out of the loop at school I didn't have the best experience with friends or anything.

I think it would be nicer if there was at least a little wink or nudge from the university being like, this [degree planning] is happening soon, you should get onto that if you want to do that, or something with that, because no one was aware. Also, I was talking to another friend about it and she wanted to do a secondary study in another course, and she didn't know that was a thing until I started talking about doing 'Education'. (Adapted from Ellis et al., 2019)

The first quotation above describes a positive perception of the support provided by pastoral advisors. That particular student had had a negative previous experience at school and compared it to the support they had received at university. The second quotation above describes a negative perception of the support services of the university, wishing that they had been informed about how to get into degree planning in a more timely fashion. The second student commented that one of their peers had had a similar experience about not being informed that they could study another course.

The previous study also identified qualitatively different approaches to seeking support services. The study identified four categories of approaches to seeking support in a blended course, from being basically proactive to being reluctant. Students with proactive approaches were self-aware that they needed support in order to understand an issue, and they then took action to access the support in order to resolve it. For example:

Carly, who's the main one (support person) here, she's been awesome with figuring out all the transferring stuff and what's the next steps going to be and she's been in contact with the indigenous support people down in Gold Coast and all that. I feel like it's definitely – and she's really laid it out for me, the pathways I can go and all that so I've found that really helpful. If I'm going to stay with film or go on and make the decision to transfer over to education. (Adapted from Ellis et al., 2019)

Students with reluctant approaches were also, surprisingly, self-aware that they needed support, but for some reason they did not bother to access it.

It's – I'm not sure. It's mostly just how I think about different things and how I don't – I really don't want to bother other people about my own stuff. A lot of times when I do need help, I don't find help, and sometimes I do think to myself, oh yeah... I had friends who told me, maybe you should talk to somebody about it, but – and they keep on reminding but I still just don't do it. (Adapted from Ellis et al., 2019)

It is worth noting that the previous study found associations that linked categories of perceptions to categories of approaches in logical and informative ways. In

general, students with positive perceptions of support services tended to adopt proactive approaches to accessing them. Similarly, students with negative perceptions of support services did not tend to access them. While these associations were a minor outcome of the study, they are worth reflecting on because they offer a way into helping to transform students’ approaches to seeking support, and whether or not similar associations are to be found in other similar population samples.

12.4 The Current Study

The current study noted the results of the previous study and drew on interviews with students in another university studying in fully online courses. The intent of the current study was to assess whether the students in the online context had similar perceptions of student support services (both positive and negative across pastoral, social, and academic support services) and to what extent they reported qualitatively different approaches to seeking that support.

The population sample for the current study was described in detail in Chap. 1. A total of 27 students enrolled in fully online courses participated in this study, representing 63% of the cohort who were interviewed. Table 12.1 provides some descriptive statistics of the study participants.

Table 12.1 shows that, of the 24 females and three males interviewed, the majority were between the ages of 30–50, about half were completing their first degree, and the same amount were completing their first online course. In terms of the data available for the equity categories, 11 were in remote or regional areas, 3 spoke English as a second language and 2 identified as living with a disability. The population sample also contained students with diverse SES backgrounds based on the residential post-codes. The sample included students on a continuum from the most disadvantaged areas to the least disadvantaged areas.

Table 12.1 Descriptive frequencies of the population sample interviewed

Gender	Female	24
	Male	3
Age	<30	6
	30–50	18
	>50	3
First degree	yes	14
	no	13
First online course	yes	13
	no	14
Remote/regional		11
NESB		3
Disability		2

The interviews each lasted around 45 min and were digitally recorded, professionally transcribed and fully anonymized. Participants were all given the opportunity to review their transcripts prior to the analysis phase. For this study, the questions used to analyze the transcripts were:

- To what extent did students report positive and negative perceptions of support services in their online experience of learning?
- What categories of perceptions of student support were evident in reporting on their online experience of learning?
- To what extent did students report qualitatively different approaches to seeking support services in the online environment?

12.5 Method

The method of analyzing the student transcripts was similar to that reported in the previous study. All the transcripts of the online students' interviews were read from beginning to end to assess the extent to which they talked about their perceptions of support services and their approaches to seeking that support. Each of the researchers independently assessed qualitative differences in the students' perceptions and approaches and identified key themes that developed into groups of student experiences that appeared to be logically related.

The researchers then shared their results of classifying the qualitative variation of the students' perceptions and approaches, and engaged in a series of iterations to improve the clarity and specificity of the students' responses. For the perceptions, the differences in the classifications were contrasted to maximize the difference between positive and negative assessments. Similarly, the differences in the classifications of the approaches were contrasted to maximize the variation across the population sample.

The clarity of the process and decision making was aided by the illuminative quotations reported below and draw on the SOLO taxonomy to help describe the nature of their associations (Biggs & Tang, 2011).

12.6 Results

Tables 12.2 and 12.3 set out student experience of learning in fully online courses. During the process of analysis, the researchers found that the most logical and clear structure for the perceptions of student support was pastoral, social, and academic support. Different structures were considered, such as 'non-academic' and 'academic' or adding to the three categories with an additional category such as 'practical', but discussion amongst the researchers concluded that the most illuminative were the three categories that had also been found in the previous study.

Table 12.2 Student Perceptions of support services in fully online courses

Quality	Pastoral	Social	Academic
Label	A	B	C
Positive	UTAS are often sending out stuff to us about support services and you know, if you're stressed around exam time or you know, end of assessment times and I'm aware that there obviously is support services and things we can access as students if we need to	I liked the [online] community there because they are supporting one another. And I felt like I have friends	Yes, that Orientation Week really did help. ... They went through how assessment tasks would generally be set out, what to expect, and looking a little bit through MYLO and how it would work and what to expect ... that really helped me calm down a little bit, because at least I knew what I could expect
Negative	I've had calls from maybe, is it student services or ... someone rings and touches base every now and then. But, there's been so much information and my information retention level isn't fantastic. At the start I had, I think an hour conversation with someone and I did say to her, "I'm taking notes but I'm only going to remember bits and pieces". So there may be a mentor, I probably have been spoken to about that, but it's just in one ear, out the other	There was a student that I was really engaging with. You know, we were throwing back forth, ideas back and forth. But then once that finished and that was it. Because you only see their picture and their names and that's about it	One of the tutors just kind of gave up as well like responding and posting to the discussion boards. Like there was almost radio silence. So, I think that kind of sent a message to or to myself like is there any point in using this particular forum for this class?

Table 12.2 presents extracts from the interviews showing pastoral, social, and academic support, with positive perceptions in the second row of the table and negative perceptions in the third row of the table.

Table 12.2 presents two categories of perceptions of support: positive and negative perceptions. In the first category, typical comments by students showed some were aware of the type of support available (pastoral, social, academic) and the benefits that they were likely to receive by accessing that support. In the positive quotations set out in the table, the students were aware of pastoral support services provided by the university, identified peer students as a friendship support group, and described how the academic support available during Orientation prepared them to commence their studies.

In the second category in Table 12.2, typical comments revealed negative perceptions about the extent and benefits of support available. In relation to the pastoral

Table 12.3 Student approaches to seeking support services in fully online courses

Category	Label	Description	Quotation
Deep	A	Aware and proactive	I did do Unistart at the beginning of the semester, which I found was really helpful. I really enjoyed doing that. It sort of gave me a bit more of an idea of, you know, what the expectations are and sort of how to navigate the sites and things like that. And where to find like the library catalogue and all those sorts of things. And more supports and things that university offers. And I mean there's so much support so it's, yeah, it was really good to sort of know all those things before I started
	B	Aware and receptive	I had some personal issues which were affecting my study I guess. It had an impact on my grades, and so the university noticed that. And so, a learning support person contacted me and we started to make a study plan and that was to get me back on track. Which really did help. I think if it wasn't for that study plan and the interactions I had with her I probably wouldn't be continuing my study as of right now
Surface	C	Reluctant and unmotivated	I've had calls from maybe, is it student services or ... someone rings and touches base every now and then. But, there's been so much information and my information retention level isn't fantastic. At the start I had, I think an hour conversation with someone and I did say to her, "I'm taking notes but I'm only going to remember bits and pieces". So I'm finding my way along the way. So there may be a mentor, I probably have been spoken to about that, but it's just in one ear, out the other
	D	Reluctant and frustrated	When I re-enrolled to do the second degree, they kept sending me emails saying, "Please fill out this form so we can give you a learning access plan". But the link's broken, and the person I was seeing isn't there anymore so I can't get her to fill in, so I can't get the LAP. It's all very complicated

support accessible through the university individual mentoring scheme, the student had put it out of their mind. Students also spoke about difficulties with maintaining social connections with limited online interaction, as well as a lack of communication with their instructor. In each of these instances there were alternative or supplementary means for the student to access the support they needed.

The interview data collected from the online students also revealed how students approached seeking online support for the university experience. Such support could have related to any of the broad categories described earlier. The main goal of the conversations in the interviews was to uncover what students did in order to seek support (their strategies) and why they did those things (their intent). Table 12.3 provides illustrative examples of variation in how students approached seeking support.

Table 12.3 describes variation in the students' approach to seeking support for their studies in an online context. There are qualitative, conceptual, and logical associations among the categories. There is an important distinction between Categories A&B and C&D. Broadly summarising, there is an intent to seek support in the first two, and a reluctance to seek support in the second two. Within each pair of categories, there is a further conceptual difference. Starting from the last category D, this approach suggests a reluctance to accept support and frustration that the processes involved are complex. Category C reveals a reluctance to seek support, and that, if it is made available, there is little motivation to pursue it. Category B marks a qualitative shift in the way students reported their approaches to seeking support. This approach recognises that support is needed and is willing to use it when provided. Category A is also aware of their needs and engaged with the support services actively.

In relation to the researchers' experience of analysing the 27 transcripts, the descriptive categorizations of the online students' approach to support reflects the researchers' experience of the interviews as a whole. Some students were proactive in identifying barriers to their study and seeking assistance to overcome those challenges. Other students lacked awareness of the support services available to them or were otherwise reluctant to seek help.

12.7 Associations Amongst the Categories of Perceptions and Approaches of Students in Fully Online Courses

The main outcome of this study is the descriptive categories of the perceptions and approaches related to seeking support during the student experience of learning described in Tables 12.2 and 12.3. A minor outcome is the associations amongst the categories of perceptions and approaches presented in Table 12.4.

Table 12.4 provides information on the online students' perceptions of, and approaches to, university support overall. The table shows a statistically significant relationship between the quality of approaches to seeking support and the perceptions of support ($\chi^2 = 10.7, p = 0.001$). The online students with deep/surface approaches

Table 12.4 Associations amongst approaches to seeking, and perceptions of, support services online

Approaches to seeking support	Perceptions of support		Totals
	Positive	Negative	
Deep (proactive) Categories (A&B)	18	1	19
Surface (reluctant) Categories (C&D)	3	5	8
Total	21	6	27

$\chi^2 = 10.7, p = 0.001$ (Fisher Exact test)

to seeking support tended to report a positive/negative perception of support for their experience.

12.8 Unanticipated Perceptions of Students

While analysing the student transcripts, an unanticipated but understandable theme became prominent from the students whose experience was wholly online. As they generally never attended campus, whenever they had a need for some type of support, their first point of call was the online lecturer or tutor.

There were some student comments about support for learning:

I did have a great conversation with her (the online teacher) on the phone after I did terribly on an assignment, just to get some advice and some guidance. And I actually really appreciated the phone call. It's actually what I needed.

So, she was really available. The moment I said "Look, you know. I just would like to...". Actually, she offered to talk through my assignment and what I had done wrong and where the failure had come from and she helped me understand what I needed to do. And, so I found her quite accessible, which I think yes, was her strength.

and some student comments about support that seemed to be more pastoral in nature:

When I started it was nerve-wracking. Like I was in tears and I was like, 'Oh my God. I can't do this, I need to pause, I don't want to continue ... I think I sent her, like, 100 emails or something saying that 'I don't think I can do this', and she actually called me and she said, 'No, you can.'

The kind of accessibility of interacting with lecturers ... if I'm stuck or whatever, being able to kind of go to a lecturer or just if I have a bit of an idea or whatever, and being able to kind of [chat to them] and them being more than like – even if it's outside of consultation times or whatever, generally being accommodating and trying to kind of work with you to kind of get whatever outcome you're working towards is something I've personally really valued.

And the lecturer and tutor were, I think, they went above and beyond to offer assistance and guidance...she was encouraging enough ... just with replying to questions and things like that....She wrote some emails which were, yeah, which were personalised. I think they were really encouraging.

and some student comments about support in general:

If you need any support, you can email, you can Skype, or use any of those platforms, or your teacher. ... You could email them anytime; ask them questions on the interface.

The lecturer was very available when I reached out to her, and that was a massive plus.

These comments were not the focus of the initial question design of the interviews but their regular appearance in the transcripts suggests that the role of the teacher in wholly online experiences of learning means that teachers are likely to be the most visible and important source of support for students, if not a gateway to whatever types of support they seek in their studies.

12.9 Compounding Impact of the Characteristics of Online Students

The two studies above have investigated the perceptions of student support services of blended learners at a metropolitan university and fully online students at a university with a contemporary model of admission and course delivery. Table 4.1 in Chap. 4 presents some key demographic characteristics of undergraduate students at the two universities (universities M and C). Both universities have quite open admission policies, with 56.4% of undergraduates at university M admitted on a basis other than secondary results, compared to 71% at university C. Study modes are quite different, though, with university C having 71.3% of undergraduates not studying on campus and 52% with less than a full-time load, while university M has figures of 9.4% and 14.0% respectively.

The availability of online learning, as a key element of open learning has led to a significant diversification of the student intake at university C. A significant demographic is that 44.4% of undergraduates at university C are mature students with age greater than 24, compared to 23.6% at university M. 23.6% of undergraduates at university C were classified as low SES, compared to 14.5% at university M. The proportion of students living in outer regional, remote, and very remote areas was, not surprisingly, markedly different with 39.7% for university C compared to 6.2% for university M.

The insights to be drawn from this comparison of demographic characteristics of undergraduate students at the universities from which the samples of blended and fully online students were drawn, is that the availability of courses offered in the online mode permits the enrolment of students who are unable or unwilling to attend classes on campus. Chap. 4 uses the framework of open learning to explain that the provision of two key elements of open learning, online learning part-time study, enables the diversification and expansion of the student body.

Online learners, therefore, need to be envisaged in terms of a broader range of student characteristics than purely their mode of study when support needs are being considered. Chap. 5 presented rich and detailed case studies of online learners

studying online in their homes, while at the same time having to cope with a wide range of issues arising from family and employment responsibilities. Overall analysis of the case studies led to the construct of multiple associated challenges acting in concert as a way of describing the challenge faced by online learners studying in their homes, following the expansion and diversification of the student body in higher education.

The section above has noted the perceptions of online students that they relied on their teachers and tutors as the primary source of support. It might also be noted that Chap. 7 presented a framework of coping mechanisms which online students used to deal with the multiple associated challenges. Three coping mechanisms were identified: sacrifice, support, and the negotiation of arrangements. These mechanisms operated in the domains of the self, families, and work.

The following section considers the implication, of the findings in this Chapter, for designing student support systems in universities. In universities with significant proportions of online students such considerations clearly need to take a holistic perspective which includes: the nature of study through a virtual environment; the role of teachers and tutors in providing support; the characteristics of online learners and the multiple associated challenges they face; the fact that study takes place in the home; and, an awareness of what coping mechanisms online learners have found to be necessary.

12.9.1 Implications for Designing University Student Support Systems

The findings of this research have implications for at least two levels of planning across a university: at the level of courses with the teacher in mind, and at a whole organizational level. Research, and recent experience in the pandemic, have demonstrated a significant growth in online enrolments and experiences which have indicated a likely sustained use of the online environment in a post-pandemic context (Department of Education, 2022; Thatcher et al., 2020). The growth in learning online in university programs means that it is unsustainable for an individual online teacher to be able to meet all the pastoral, social, and academic support needs of their online students. Consequently, it would seem that, in order to maintain satisfactory experiences of learning in blended and fully on-line course designs, both course level support services (that address the needs created by the immediate learning context), and institutional level support services (that take advantage of economies of scale), are necessary for an effective, sustainable support framework.

Before addressing the nature of the student experience of seeking support, there are some logical observations that have arisen from the research process surrounding the interviews in this study and from the preceding chapters. While the universities involved are on different places in a continuum that describes traditional enrolment and delivery models at one end (largely on-campus), to more modern models of

enrolment and delivery at the other end (predominantly online), historically they have had services designed to support students who access them on the university campus. In both universities there are pastoral, social, and academic support services which have been originally conceived with the idea that the student will be able to attend and use those services in person. The design of these services does not necessarily translate effectively to students whose learning experience is predominantly or wholly online. As such, there seems to be a need to rethink how support services are delivered to students in fully online courses that also can meet the needs of students in blended course designs. Furthermore, given that the unanticipated theme in the interviews suggested that students perceive the online lecturer or tutor to be their main point of contact with the university in their learning experience, and a good source of knowledge for support (if not the only source of support), then the issue of how university-wide support services are communicated and integrated into predominantly online experiences should consider the role of the online teacher in their design.

In addition to including the online teacher's role as a provider and a gateway to learning support services for online students, there is a question as to which categories of support are best suited at the level of the course, and therefore predominantly provided by the teacher online, and which are best provided at the university level, even if delivered online. From the unanticipated quotations above, those seeking support for assignments, assessment, and tasks within the course are most likely to be best addressed at the course level. Depending on the services provided by the university, the online teacher is most likely best able to address course-level needs related to learning outcomes. However, if the university is delivering peer-assisted study services (PASS) and has redesigned those services to work in an online context, then students from the same course delivery in previous teaching periods along with classmates may also likely address learning needs at scale through structured peer-based activities. At an institutional level, other services like counselling, financial advice, and some general orientation activities to academic life at university can, if carefully designed, be delivered online to students from a point managed by central university services. The extent to which these services prove satisfactory will depend on the detailed needs analysis undertaken by the service provider of the student cohorts in question.

Leaving to one side how a university conceives of the design and delivery of its support services, the results from this study of the students' experience of those support services suggest a number of things that can help to improve the experience of university students in blended and fully online courses, regardless of where the service is delivered from (either at the course or institutional level), or whether the service is provided on-campus to students in blended courses or online to students in predominantly online courses. A key to improving the student experience of support is developing their awareness of the services available (Lee et al., 2011).

In this study, the students did not necessarily perceive that their university had the services they needed when they needed them. In general, it seems that the students did not absorb the totality of services provided by their university and some only became aware of them when a need in their university experience caused them to look for

those services. Some students were surprised at the extent of services across pastoral, social, and learning areas, but others did not even perceive that there were services available in those areas. This is despite the universities in question providing services described in earlier chapters in this book. Furthermore, the students' experiences of these services were mixed. Some held positive perceptions that suggested the services helped them to resolve the issues they were addressing, while others held negative perceptions about the quality of the service as it was delivered, or the lack of a follow-through in ensuring that the issue being addressed was actually resolved to the satisfaction of the student.

Interestingly, the students revealed qualitatively different approaches to the ways they sought the support. One group who were aware of the services were mostly receptive if not proactive regarding the support and used it successfully to resolve the issues. They tended to either reach out to a specialist within the university support service framework to understand what services were available, or if a support person approached them with an identifiable issue such as academic performance or study plan progression, they accepted the support. The comments from students in this group often alluded to the essential nature of the support in order to continue with their studies, which if it had not been provided, may have caused them to leave university. Another group of students reported being quite reluctant to access student services, and not really motivated by any efforts on the part of the service providers to engage with the support. Some felt the information was not relevant, others ignored it, and some found the experience frustrating.

Although it was only indicative, there was some evidence that students who engaged actively with the support services, tended to recognize the variety and purpose of the services provided and were positive about them. Similarly, but in contrast, those who were reluctant to engage with the support services tended to be negative about the usefulness of the services or even their very existence, despite the services actually being available within the university's framework. While these associations are only indicative, they are consistent with the previous study reported on at the beginning of this chapter (Ellis et al., 2019) and need to be more fully investigated in follow up studies. They also suggest some strategies for university leaders, course convenors, and online teachers about how to help students with a university's support framework.

For university, program, or course leaders who wishes to make a difference in students' approaches to accessing support, they might begin their approach by considering how to create a positive perception among students of the services available. The association of a positive perception with a proactive and receptive approach to seeking support means that the students who develop positive perceptions may go on to address the issues that are impeding their studies and may be less likely to drop out of their course. Research has shown that a reluctance to seek support can be common among students for different reasons. For instance, there may be a feeling of shame in approaching others for help, or some embarrassment or lack of confidence simply because they have not been in a similar position in the past (Chew-Graham et al., 2003; Organ et al., 2016). This would suggest that teachers may have more success in helping students if they understand the underlying reason for their reluctance.

The outcomes of this study complement existing findings in the research that have looked at predictors of the quality of student approaches to seeking support. Komiya et al. (2000) identified emotional openness as a key predictor to students' attitudes toward seeking counselling and other types of psychological help. Other related research has identified students' self-esteem, previous help-seeking experience, and the levels of anticipated risks being closely related to their openness to seeking support (Topkaya, 2021). Some of this research has emphasized how emotional openness may help to explain student approaches to accessing support through their teachers. When students' learning is contextualized primarily within the individual subjects and they work closely with their lecturers on a daily basis during the semester, those who build a close relationship with their lecturers become more trusting. This openness becomes a significant predictor of students who will reach out to their teachers for help, a phenomenon which may be magnified for students whose main contact with their university is through their online teacher.

12.9.2 Conclusions

In this study, the role played by lecturers was critical for student support in their online courses at both institutions, and across all categories of pastoral, social, and academic support. However, totally relying on lecturers as the single source of support is neither feasible nor sustainable. The direct provision of support for students by their lecturers, particularly in terms of pastoral and social needs, is not a sustainable arrangement.

The findings of the study call for a redesign of university support services to make them available to students in online contexts. When conceiving of the support system, if students in the online environment are included in the service delivery model design, these services are likely to serve both students in online courses *and* in blended course designs.

The findings also call for a reconceptualization of the role of lecturers in supporting students and an institutional rethink of the student support model for both blended and online contexts. To sustainably facilitate student agency in their candidature, lecturers can act as conduits or guides to the university-wide support system for pastoral and social support needs by passing on information to their students regarding the opportunities for support that are available, and explicate the access pathways, which should lead to better awareness and greater confidence amongst students to use the support. The teachers' encouragement and facilitation of access to support services are likely to be essential to promoting positive perceptions among students, especially where the students are reluctant to do so in the first place as suggested by this study and related ones (see for example, Topkaya, 2021).

This study also suggests a need for a partnered approach to who takes responsibility for seeking and providing learning support by both the universities and individual students, and a stronger interplay between support structures at the course level and the organizational level. In addition to teacher/student relationships being

developed to foster trust, there is a need to develop awareness amongst students that they are the owners of their own learning experiences, and therefore are responsible for seeking help to keep their learning on track. Similarly, when services are delivered at an organizational level, universities need to identify the specific needs of the student cohorts being supported and develop structures that correspond to those needs. As identified in this study, pastoral and social support are two of the major areas of students' needs that are not likely to be sustainably catered for by teachers at the course level. This calls for universities to reconceptualize how to restructure their support services to address student needs across all domains if they are to maximize their retention in emerging models of enrolment and course delivery.

References

- Baker, J. D. (2004). An investigation of relationships among instructor immediacy and affective and cognitive learning in the online classroom. *The Internet and Higher Education*, 7(1), 1–13. <https://doi.org/10.1016/j.iheduc.2003.11.006>
- Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university*. McGraw-Hill Education (UK).
- Britto, M., & Rush, S. (2013). Developing and implementing comprehensive student support services for online students. *Journal of Asynchronous Learning Networks*, 17(1), 29–42.
- Chew-Graham, C. A., Rogers, A., & Yassin, N. (2003). 'I wouldn't want it on my CV or their records': Medical students' experiences of help-seeking for mental health problems. *Medical Education*, 37(10), 873–880. <https://doi.org/10.1046/j.1365-2923.2003.01627.x>
- Department of Education. (2022). *2020 student summary tables*. Retrieved from Canberra <https://www.dese.gov.au/higher-education-statistics/student-data/selected-higher-education-statistics-2020-student-data-0>
- Ellis, R. A., McDonald, C. V., & Le, A. H. (2019). The student experience of support at university. In: D. Kember & R. A. Ellis (Eds.). *Admission and success for low SES university students: Report on a HEPPP 2018 National Priorities Pool Project*. Department of Education, Skills and Employment.
- Gillett-Swan, J. (2017). The challenges of online learning: Supporting and engaging the isolated learner. *Journal of Learning Design*, 10(1), 20–30. <https://doi.org/10.5204/jld.v9i3.293>
- Hillier, A., Goldstein, J., Murphy, D., Trietsch, R., Keeves, J., Mendes, E., & Queenan, A. (2018). Supporting university students with autism spectrum disorder. *Autism*, 22(1), 20–28. <https://doi.org/10.1177/1362361317699584>
- Kember, D., & Ellis, R. A. (2022). *Admission and success for low SES university students: Report on a HEPPP 2018 National Priorities Pool Project*. Department of Education, Skills and Employment.
- Kember, D., Trimble, A., & Fan, S. (2022). An investigation of the forms of support needed to promote the retention and success of online students. *American Journal of Distance Education*, 1–16. <https://doi.org/10.1080/08923647.2022.2061235>
- Komiya, N., Good, G. E., & Sherrod, N. B. (2000). Emotional openness as a predictor of college students' attitudes toward seeking psychological help. *Journal of Counseling Psychology*, 47(1), 138–143. <https://doi.org/10.1037/0022-0167.47.1.138>
- Lee, S. J., Srinivasan, S., Trail, T., Lewis, D., & Lopez, S. (2011). Examining the relationship among student perception of support, course satisfaction, and learning outcomes in online learning. *The Internet and Higher Education*, 14(3), 158–163. <https://doi.org/10.1016/j.iheduc.2011.04.001>

- MacCullagh, L., Bosanquet, A., & Badcock, N. A. (2017). University students with dyslexia: A qualitative exploratory study of learning practices, challenges and strategies. *Dyslexia*, 23(1), 3–23. <https://doi.org/10.1002/dys.1544>
- Mercer-Mapstone, L., Islam, M., & Reid, T. (2021). Are we just engaging ‘the usual suspects’? Challenges in and practical strategies for supporting equity and diversity in student–staff partnership initiatives. *Teaching in Higher Education*, 26(2), 227–245. <https://doi.org/10.1080/13562517.2019.1655396>
- Muljana, P. S., & Luo, T. (2019). Factors contributing to student retention in online learning and recommended strategies for improvement: A systematic literature review. *Journal of Information Technology Education: Research*, 18, 19–57. <https://doi.org/10.28945/4182>
- Organ, J. M., Jaffe, D. B., & Bender, K. M. (2016). Suffering in silence: The survey of law student well-being and the reluctance of law students to seek help for substance use and mental health concerns. *Journal of Legal Education*, 66(1), 116–156. <http://www.jstor.org/stable/26402424>
- Pintrich, P. R. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational Psychology Review*, 16(4), 385–407. <https://doi.org/10.1007/s10648-004-0006-x>
- Thatcher, A., Zhang, M., Todoroski, H., Chau, A., Wang, J., & Liang, G. (2020). Predicting the impact of COVID-19 on Australian universities. *Journal of Risk and Financial Management*, 13(9), 188. <https://doi.org/10.3390/jrfm13090188>
- Topkaya, N. (2021). Predictors of attitudes toward seeking professional psychological help among Turkish college students. *Children and Youth Services Review*, 120, 105782. <https://doi.org/10.1016/j.childyouth.2020.105782>
- Trigwell, K., & Prosser, M. (2020). *Exploring university teaching and learning-experience and context*. Palgrave Pivot. <https://doi.org/10.1007/978-3-030-50830-2>
- University of Tasmania. (2022). *CALE Student advice and mentorship*. University of Tasmania.
- Veitch, S., Strehlow, K., & Boyd, J. (2018). Supporting university students with socially challenging behaviours through professional development for teaching staff. *Journal of Academic Language and Learning*, 12(1), A156–A167. <https://researchrepository.murdoch.edu.au/id/eprint/42259/1056979936>
- Wang, C., Hsu, H. C. K., Bonem, E. M., Moss, J. D., Yu, S., Nelson, D. B., & Levesque-Bristol, C. (2019). Need satisfaction and need dissatisfaction: A comparative study of online and face-to-face learning contexts. *Computers in Human Behavior*, 95, 114–125. <https://doi.org/10.1016/j.chb.2019.01.034>

Part III
Implementing a Model for the Retention
and Success of Online and Blended
Learners

Chapter 13

International Perspectives on the Transformation of Teaching in the New Normal



Susan M. Bridges, Cecilia K. Y. Chan, Robert Ceperkovic,
Uyen Nu Thuy Nguyen, Michael Prosser, Elisa Bone, Sarah French,
and Shayan Sharifi

Abstract The chapter presents short case studies of how universities and countries have adapted teaching and learning to deal with the Covid-19 era and how higher education has transformed towards a new normal. Case studies are presented for five universities in five countries: The University of Melbourne, Australia; Imperial College London, UK; Seoul National University of Education (SNUE), South Korea; The University of Hong Kong; University of Danang, Vietnam. The transition to online and blended learning has been problematic for students, teachers and university management, particularly in universities which have previously relied on on-campus teaching. An analysis and synthesis of the case studies shows that, while there are contextual differences, there are also global trends. In the face of restrictions on contact, there has been a transition to substantial degrees of online and blended learning in a short space of time, and this transition commonly seems set to be ongoing.

13.1 Introduction

This Chapter presents five case studies of how universities adapted to the monumental challenge of Covid-19. The case studies include information about the initial process of coping with social distancing and lock-downs, the forms of online and blended learning adopted and any indications that there will be long-term impacts on teaching and learning. The case studies come from universities in five different countries spread across the world: The University of Melbourne, Australia; Imperial College

S. M. Bridges (✉)

Centre for the Enhancement of Teaching and Learning, The University of Hong Kong, Pokfulam, Hong Kong SAR, China

e-mail: sbridges@hku.hk

C. K. Y. Chan

Centre for the Enhancement of Teaching and Learning/Faculty of Education, University of Hong Kong, Pokfulam, Hong Kong SAR, China

e-mail: cecilia.chan@cetl.hku.hk

London, UK; Seoul National University of Education (SNUE), South Korea; The University of Hong Kong; University of Danang, Vietnam. The case studies have been ordered very roughly in terms of the traditional to contemporary spectrum for admission and course delivery; which was introduced in Chap. 4; though this was less clear on an international level than within a single country. The traditional to contemporary construct has been used for analysis and interpretation in Chaps. 2, 4, 8, 10, 11, 12 and 19, among others. It also proved to be relevant to the interpretation of the case studies in this Chapter.

The major aim of the chapter is to analyse the cases to look for common trends or influences. Given the title of the book, an important aim of the analysis is to seek to identify any trends in the nature of online and blended learning which was adopted once Covid-19 struck. The analysis of long-term impact is particularly important as guidance can be offered on how any ongoing blended learning with online components might be configured.

R. Ceperkovic

International Language Institute, Seoul National University of Education, Seoul, Republic of Korea

e-mail: Robert.Ceperkovic@utas.edu.au

U. N. T. Nguyen

Faculty of English, University of Foreign Language Studies, The University of Danang, Danang, Vietnam

e-mail: ngntuyen@ufl.udn.vn

M. Prosser · S. French

Melbourne Centre for the Study of Higher Education, University of Melbourne, Melbourne, Australia

e-mail: mike.prosser@unimelb.edu.au

S. French

e-mail: frenchs@unimelb.edu.au

E. Bone

Centre for the Study of Higher Education, The University of Melbourne, Parkville, Australia

e-mail: elisa.bone@unimelb.edu.au

S. Sharifi

Department of Design Engineering, Faculty of Engineering, Imperial College London, London, UK

e-mail: s.sharifi@imperial.ac.uk

13.2 The University of Melbourne, Australia

13.2.1 *The Context*

The University of Melbourne is a large research-intensive Australian university. Its location in the city of Melbourne, together with its commitment to providing a rich campus-based education, rendered it especially vulnerable to the effects of the pandemic. With six lockdowns and more than 260 days under restrictions, Melbourne was labelled the 'world's most locked-down city' (RMIT ABC Fact Check 2021). The elongated lockdowns and lengthy travel restrictions required dramatic changes to the University's approaches to teaching and learning.

A defining feature of Australian higher education is its diverse student population and internationalised character. Education is Australia's fourth largest export (after iron ore, coal, and gold), and Australia has long enjoyed a globally competitive advantage in higher education, owing in part to the country's location in the Southeast Asia region and strong demand from students in Asia. International student fees are a significant source of revenue for Australian universities; in 2018 they constituted 26.2% of total revenue across the sector (Marshman & Larkins, 2020). Although the higher education sector generated 40.3 billion in 2019, the latest data shows a significant decline to \$22.5 billion in 2021 (ABS, 2022), highlighting the extent of the financial impact of the pandemic on the sector. The decrease in overseas student revenue has caused varying degrees of financial risk to universities. Whilst projections have found that the University of Melbourne is in a stronger financial position to cover pandemic-related fee losses compared to other Australian universities, it ranks fourth highest of all Australian universities for dependence on overseas fee revenue (Marshman & Larkins, 2020).

In addition to the loss of international student revenue, the financial impact of the pandemic was exacerbated by the exclusion of the sector from federal funding known as the 'JobKeeper' initiative that allowed employers to continue paying wages during lockdowns (Larkins & Marshman, 2021). Around 40,000 jobs were lost from Australian universities, representing almost 20% of the workforce, a greater proportion of the workforce than any other non-agriculture sector (Littleton & Stanford, 2021). Like most Australian universities, the University of Melbourne has a large casual teaching workforce, which was especially impacted by job losses. The reduction in casual staff able to take on tasks such as tutoring and marking in turn had an impact on the work of academic staff who found their teaching workloads dramatically increased. Subsequently, they were left with little to no time for research which for many is the cornerstone of their academic identity, and perhaps a key impetus for choosing to work at a research-intensive university.

On the whole, staff at the University of Melbourne had limited experience with online teaching and learning prior to 2020. Although a range of more flexible, online, and blended learning options were in development at the onset of the pandemic, the University also continued to strengthen and differentiate its campus-based education. Significant investments in physical infrastructure enhanced the campus design and

aimed to foster social interaction and collaborative learning. The pivot to wholly online learning in 2020, therefore, in many ways conflicted with some of the core values of the University.

Our discussion of approaches to teaching and learning adopted at the University of Melbourne draws on two sources of data: a quantitative institution-wide survey of 413 coordinators across 371 subjects at the University that aimed to identify and classify the variation of approaches to online design and delivery during 2020 and 2021,¹ and qualitative evidence from semi-structured interviews with 19 academics participating in centralised curriculum support programs, who provided insights into their experiences, perceptions of change and approaches to teaching and learning during the pandemic.

13.2.2 Initial Reactions

On 30 March 2020, three weeks into the first semester of teaching, all teaching, learning and assessment activities at the University of Melbourne were directed to be held online. Academics were provided with around one to three weeks' notice to make necessary changes and accommodations to their activity design and delivery platforms. Undoubtedly, this was an extraordinary disruption to a university at which teaching and learning activities were largely campus-based, with the effects resonating across all aspects of the University's operations.

In the immediate aftermath of the move to online teaching and learning at the University, central support services units reported a tripling in the requests from academics for support in implementing changes to their subjects' Learning Management Sites (LMS) and online delivery tools such as Zoom. That the pandemic coincided with the University moving to a new LMS was both an opportunity—in that the new LMS was more conducive to online learning, and a challenge—in that the volume of support requests increased, and the professional development offerings in the latter half of 2020 were around double that prior to the pandemic.

Teaching academics necessarily shifted their modes of subject delivery and tended to increase the range of teaching activities; for example, single in-person lectures were often replaced by a range of different synchronous and asynchronous modes employed in combination. These shifts in teaching and learning practices drove responsive changes to centralised support models, which provided greater support for online curriculum development that included workshops, video tutorials and written resources to assist with designing and implementing online curriculum. Within centralised support programs, we also saw a greater appetite amongst academics for developing videos and interactive modules, as well as updating the layout and

¹ These data are derived from the following research project: Mulder, R. Bone, E. K. French, S., & Connelly, C. F. (2021). *Characterising approaches to online curriculum delivery during the COVID19 pandemic and their impact on student engagement and perceptions of learning*, supported by a Research Development Award from the Melbourne School of Graduate Education at the University of Melbourne. See French et al. (2022); Further outputs from this work are forthcoming.

structure of subject sites as part of an acceleration to interactive online pedagogies. However, teaching academics also had very limited time to design or implement innovative approaches or to access the full range of supports available.

With a universal move to online learning in March 2020, followed by two near-consecutive lockdowns of three and six months, all learning and teaching activities at the University were held online, and all staff—with the exception of those essential to on-campus operations—worked from home for the remainder of the 2020 academic year, and well into 2021 in some cases. Unsurprisingly, for a campus-based University, over half of the 413 respondents to our survey (54%) reported that they had no experience in implementing online teaching and learning prior to 2020, with only 15% reporting they had considerable experience. As such, this shift in practice was extremely disruptive to the majority of academics. Many academics ($n = 234$, 75% of 314 survey respondents) reported they were able to access support at the Faculty, School or University level, but half (50%, $n = 185$) also stated that their personal experience of teaching worsened with the move to online teaching (French et al., 2022).

A consistent reported impact of the pandemic from our interview participants was a significant increase in their workload as they moved their teaching online and a concomitant reduction in resources available to them. The precarity of academic work also affected staff, with many experiencing delays in contracts or uncertainties as to whether their contracts would be renewed. Responses from about half of the participants illustrated teaching approaches that were necessarily focused on overcoming the challenges of the demands of technology, and on their own performances as teachers. This was especially true for those with high teaching workloads and in the early-to-mid stages of their careers. These findings are consistent with early reports on the impact of the pandemic on Australian universities, which revealed a predominantly instructional approach to online teaching (Hall et al., 2020), and unsurprisingly a prioritisation of the technological domain over the pedagogical (Yuriev et al., 2021). Opportunities for interactions between students were often very limited, and this was especially a concern for students transitioning to their first year at university. This transition was particularly challenging in an Australian context, where the shift to remote learning in March coincided with the start of the standard academic year in many universities, meaning that students largely commenced university study online (Kyne & Thompson, 2020).

Many participants also expressed concerns about student wellbeing and spoke about the challenge of engaging and supporting students in a format that was often unfamiliar. In our initial interviews in early 2021, only senior academics with good support systems appeared to have the time and space to consider the impact of the pandemic through the perspective of student learning, and on the broader factors at play across the sector. Support from leaders in learning and teaching has been shown to be of critical importance during the Covid-19 pandemic (Sumer et al., 2021).

Despite the heavy workload and concerns of teaching academics, anecdotally, students were quite engaged with teaching and learning during the lockdowns of 2020 and 2021, and this was borne out by the Student Experience Surveys conducted by the University, which showed no significant decrease in overall student satisfaction.

Academics in our qualitative study reported that students in the online space were often appreciative of the human aspect of relating to their peers and their instructors during this difficult time, and perhaps looked forward to the contact time.

I think by and large the students were thankful that we actually provided them with meaningful contact with other people. I think the students showed amazing resilience in the fact that they were actually able to make the transition, and they adapted to the transition.

There was also a sense that the online environment could be facilitating interaction and engagement for students who may have felt excluded or overlooked in the traditional face-to-face formats.

Students who would have maybe slunk back to the back of the class on campus environments, the shy, not so forthcoming, the more introverted students, those students have not necessarily been at the forefront, but are not as reluctant as previously to participate.

The online environment, therefore, could be a potential equaliser and facilitator of a more equitable learning experience across students. In a truly traumatic and disruptive period, the blending of the personal and the professional environments, may also have created student–teacher connections from the shared humanity and vulnerabilities seen in both students and teachers during 2020 (Brady, 2020). This is similarly illustrated in Chap. 16 in which student–teacher connections are highlighted in a subject taught at another Australian university.

13.2.3 Adapting to Blended Learning

In the initial stages of the pandemic, the University needed to adapt their communications regarding subject delivery modes and on- and off-campus activities to the continually shifting public health messaging from State health departments. This resulted in mixed messages across 2020, and well into 2021, as to how teaching, learning and assessment would proceed, and inconsistencies across schools, departments, and even between students and staff, adding to workload challenges and a sense of destabilisation.

... the mixed messaging initially coming out to students didn't help the matters. There was a lot of, "We're putting a pause on teaching." And then, "No, we're doing this" ... we didn't even know what exams were going to look like. And, of course, students, that's the first thing they focus on. And they want answers from us.

In addition to this inconsistent messaging, the University's commitment to campus-based teaching and learning practices, and imperative to reinstate on-campus education as soon as possible, resulted in a yo-yoing effect on teaching and learning policies.

In this environment, connection with colleagues undergoing similar experiences was paramount. Support at the local level was a key contributor to the experiences of academics during the disruptive period, and our interviewees overwhelmingly reported that support from their colleagues was more important than support

from other sources. The emergence of communities of practice across the University facilitated opportunities for teachers with skills in educational technology to provide leadership in the new teaching and learning space, and gain credence and authority amongst their peers. These communities were, in some cases, recognised and formally supported by faculty and university leaders, in clear instances of the importance of bottom-up changes to institutional teaching and learning (Kandiko & Blackmore, 2012).

Information on University-wide approaches are limited as no systemic measurements of changes in teaching and learning practices, nor of the relationships between these changes and student and staff experiences, have been recorded at the University. However, our survey of subject coordinators provides some insight into the range and frequency of the modes of delivery employed during 2020 and 2021. Although educators mostly (65%) delivered lectures via full lecture recordings or in live zoom sessions in their subjects, in 11% of subjects reported on in our survey, coordinators made more substantial changes to their approaches by developing short online instructional videos. In a further 23% of subjects, respondents substituted lectures for synchronous Q & A sessions, creating discussion forums that were set up and moderated to effect lively student–teacher interaction (French et al., 2022). Small group sessions were predominantly conducted via synchronous zoom sessions in which staff used the technological affordances of Zoom such as breakout rooms, polling and whiteboards to foster student–student interaction.

The importance of teacher presence gained a new focus during the pandemic as both staff and students felt isolated in the teaching and learning space, but this could be alleviated online by announcements and newsletters, weekly check-in videos and other informal communications between teachers and students. By adopting a conversational style, short videos can help develop the sense of a relationship between students and teachers (Brame, 2017). As one interview participant remarked:

I guess something that I probably understood a little better this year is like that parasocial thing—for me, I didn't get to have those small interactions that I would usually have with students in a lecture—but that's for my benefit I suspect. A lot of the relational aspects the students still gain from watching a lecture, though the parasocial relationships we have with television presenters and so forth. I have probably learned to think about it a little bit more from the student's perspective. If they can still feel a connection with their teacher, if they can also fit it into their program in a way that makes better sense to them—possibly tucked up in bed and comfortable, rather than having to battle people on a train to get to Uni for a lecture—there's a lot to be said for that.

Similar strategies to enhance blended and online learning are discussed in other Australian examples illustrated in Chaps. 15 and 16.

13.2.4 Long-Term Implications

This disruption of the Covid-19 pandemic has dramatically changed teachers' approaches to teaching and learning at the University of Melbourne. Few (25%, $n = 78$) coordinators anticipated that they would revert to pre-Covid curriculum, and very few (3%, $n = 10$) respondents to our survey indicated that they would retain no changes from the move to online learning, suggesting that the impact of the pandemic has resulted in sustained changes to teaching and learning. It has also accelerated the move towards blended learning; the majority (69%, $n = 218$) of our survey respondents predicted their subject(s) would retain a blended model of teaching learning in future iterations, a result that was independent of instructors' self-reported experience with online teaching and learning prior to 2020. A further 75% ($n = 290$) indicated that they intend to retain the online resources or learning activities developed during 2020 and 2021 (French et al., 2022). Similar sustained changes to blended learning have been experienced at other Australian universities as discussed in Chap. 16.

Similarly, most of our interview participants predicted, in early 2021, they would not return to the standard face-to-face delivery models utilised prior to the pandemic, and importantly, that they wouldn't go back to delivering didactic lectures (Bone et al., 2021). As one participant reported:

The pandemic changed that because, one, we're not going back to face-to-face lectures. And secondly, more importantly, I think, people did really realise, what is the added benefit of them even giving a face-to-face lecture when they could already have the videos prerecorded online?

Others reported that they, and their colleagues, have now seen the value in some online pedagogies, after the experience of successfully implementing them in 2020, albeit through the forced situation that the Covid-19 pandemic created:

... by second semester and towards the end of last year [2020], there was a lot more acceptance that this sort of online, certainly the lecture component at least, can be delivered online with small, chunked lectures with interactive components in between them.

I am now looking at my subjects much differently or a lot differently to what I'd looked at as a year ago. Because I've suddenly seen that I need to change my subject itself a lot quicker than what I was anticipating, specifically with the changes in technology.

The responses of educators to our survey and interviews illustrate a likely shift to an enduring blended approach, and the University has invested in initiatives that foster blended learning through teaching and learning grant programs. At the same time, the University conveys a strong desire to return to a predominantly campus-based experience, and to reinvigorate what was nationally heralded as a 'vibrant on-campus life' (Universities Australia, 2022). Although the drive to return to campus is partly an economic imperative for the University, it is also widely appealing to academics who have experienced a turbulent and disruptive two years and have a strong desire to rebuild their in-person connections with colleagues, students and the institution.

For a higher education institution like the University of Melbourne that privileges the campus experience, there is a danger that conflicting perceptions of the best way forward may limit the retention and adoption of effective blended approaches to teaching and learning across the wider University. Here the promotion of these effective practices and the dissemination of exemplars of success becomes critical and necessitates the adoption by centralised teaching and learning support units of diverse and networked approaches to achieve these outcomes (Kandiko & Blackmore, 2012; Taylor et al., 2021).

As a large research-intensive, campus-based university, the University of Melbourne must consider the possibilities for continued, blended approaches to teaching and learning in a way that allows the campus experience to shine whilst retaining the gains from the move online (Alexander et al., 2021). In the future, the student experience of being on campus might shift from engaging in day-to-day learning activities, to be more focused on learning events and the social and collaborative aspects of teaching and learning, such as group work, practicals, workshops and classes that foster discussion, debate and real-world problem solving, rather than on didactic lectures at scale as illustrated in Chap. 16. On-campus events could include invited seminars and expert panel discussions, bringing current research and disciplinary practice to students in an interactive and socially engaging way. They could include hands-on groupwork to solve complex problems in laboratory, workshop, and studio settings. Campus infrastructure projects that prioritise collaborative learning spaces, informal work environments and social spaces may be favoured over those that seek to build spaces for large-scale classes and exam halls, while ensuring spaces are digitally connected to allow communications and collaborations both on- and off-campus (Bonfield et al., 2020).

As we look towards building a post-Covid sector, we need to also recognise another aspect that the pandemic has brought into stark relief: that the campus experience for students is a privileged one, that students have different abilities to access these experiences and different amounts of time they can spend on campus. Although research prior to COVID highlighted equity issues in relation to the ‘digital divide’, which limited access to online learning for disadvantaged cohorts (e.g. Hillier, 2018), equally we need to acknowledge and consider the inherent privilege of those students able to easily access and take full advantage of the experiences that campus life provides (Harvey et al., 2016; Rubin et al., 2019). Addressing this ‘access–equity dualism’ (e.g. Sublett, 2022) by ensuring that quality, effective online learning is available, and that campus-based activities are equitable and inclusive, will be a challenge for management and instructors alike, but will help to create a flexible, responsive and engaging experience for the next generation of students.

13.3 Imperial College London, UK

13.3.1 *The Context*

Similar to the rest of the world, the UK higher education was not ready for a sudden transition to a fully online mode of delivery. On a positive note, this gave room for innovation in teaching to become a more significant topic of discussion amongst the institution management teams and stakeholder committees. In academic year 2019/20, 1,889,475 students had enrolled to study for their first degree and 532,235 had enrolled on postgraduate taught programmes in the UK (HESA, 2022). Also, this industry in England alone contributes ca. £95 billion to the economy and supports more than 815,000 jobs (Universities UK, 2022). Therefore, the impact needed to be meticulously managed to mitigate the unprecedented adversarial effects of the pandemic on the country. The first strict lockdown came to effect in mid-March 2020 and lasted around three months before it was partially eased. Switching to fully online delivery of all materials during the first lockdown surfaced the fact that not all subjects can have the same level of flexibility and students will find it difficult to adapt to this sudden change in their full capacity.

13.3.2 *Initial Reactions*

The academic year at Imperial College London begins in late September and ends in mid-July of the following year. When the government announced the first lockdown in March 2020, all modules and programmes at Imperial College London switched to an online mode over one weekend to adopt a remote learning and teaching model. The main medium of communication between teaching members of staff and students was selected to be Microsoft (MS) Teams. Immediate training was provided to accommodate this change.

In 2017 the College had outlined a roadmap to improve its status as a world-leading provider of STEMM education (Science, Technology, Engineering, Math, and Medicine). The roadmap indicated that the College should offer an education that is evidence based, student centred, active, inclusive, and digitally enhanced. In a way, the Covid-19 pandemic did expedite the ‘digitally enhanced’ aspect. The initial plan however was to offer a broad range of online courses in addition to the portfolio of in-person programmes, not instead of them. If the timeline had not changed, the ambition was to build inclusive diverse communities that stimulate interaction between students and academics. This needs a gradual implementation because whilst online technology can increase effective communication, it also can alienate and isolate students (Cairns et al., 2020; Martin & Bolliger, 2018). The students should have had the opportunity to become co-creators and co-innovators in the digitally enhanced classroom, as well as in the virtual space. This transition was cut short due to the pandemic and the sudden change in the mode of delivery

made teaching practical modules challenging, where digital prototyping or labs using Computer Aided Design (CAD) or other software packages were not suitable to deliver this translation, particularly since universities were to maintain the intended learning outcomes of the taught programmes.

13.3.3 Adapting to Blended Learning

“Connectivism” is a learning theory that was established prior to the pandemic. However, the pandemic allowed this model to be embedded in almost all of the learning activities in College whether by design or by the need for innovation in teaching modes. Connectivism focuses on individual participants, networks and the flow of information, and the new forms of knowledge that it produces (Bale & Seabrook, 2021). Use of open-source platforms to promote sharing knowledge and holding coordinated peer review sessions regularly, which in itself can be an innovative approach to providing feedback, and on a separate note can tackle the sense of isolation created by the pandemic and working remotely, seemed an effective approach for most taught programmes. The role of the instructor or teacher was to coordinate the initial learning environment and provide the context that brings learners together, and then support the learners construct their own personal learning. The shortcoming of this during the pandemic was that the students would only interact during the timetabled sessions and would not have the opportunity to connect at a social level to cultivate a sense of community where they can gauge their performance against other students as a whole.

For practical topics though connectivism could not offer a well-rounded solution on its own. “Universal design” for learning is not a new subject (King-Sears, 2009); however, implementing inclusivity and removing obstacles throughout a module, particularly in a remote mode, can be challenging. Making a subject or coursework engaging for all requires multiple means and representation. Previous studies also indicate that students engage better by being practical and solving problems (Cifrian et al., 2020; de Graff & Kolmos, 2007). Being practical solicits relating the learning to personal experience, which is a form of deep learning approach. Imperial College decided to send kits to students’ residential locations so that they could still have the hands-on experience for modules where practical skills were part of the learning outcomes and should not have been compromised. These so-called “lab-in-a-box” packages with a variety of components were prepared for the Faculties of Engineering and Natural Sciences students, where students had to stay away from the campus for the first lockdown. Examples of departments that implemented this approach included Electrical Engineering, Design Engineering, Chemical Engineering, and Physics. For instance, the first-year Electronics module would usually have weekly lab activities. To reproduce the experience, packages of a digital multimeter, signal generator, oscilloscope, as well as a range of assorted electronic components were prepared and delivered to students located all around the world. This was accompanied by a revised project brief so that the students would feel the authentic experience of

this module close to normality with the collaborative nature that this module ideally should bear. In the module itself, lectures were delivered via MS Teams and students had the opportunity to ask questions live in the session. Additional teaching assistants were hired to ensure that all students would receive the necessary guidance to utilise the kits in the way that they were intended. These home size labs were curated by the module leaders, but they had support from the technicians and operational teams to meet the timeline of the academic year. This of course also relied on courier services across the world during the pandemic.

While the following academic year (2020/21) was decided to be delivered in a “multi-mode”, i.e. students would participate in some sessions on campus and some at home, international travelling was still highly restricted and many international students could not travel to the UK or at times even within the country. After the first successful trial of using lab-in-a-box during the summer term of 2019/20, which proved to be well received by students, the use of these labs became a more prominent method for a variety of courses across the College in 2020/21.

Of course, for modules where field trips were an essential element of the learning experience, risk assessments were carried out to get permission for calling students in and taking them to the required locations, with the social distancing measures and other official guidelines to follow at the time in mind, as there was no alternative for remote delivery was identified.

Another challenge that the pandemic brought up was the methods of assessing students at the end of each module. For modules where the assessments were exam based, the consensus was to implement timed remote assessments. Timed remote assessments are essentially a mode of open book exams where students are allowed to access relevant resources while sat for the exam. Although students would write their answers on paper as a faster way of transcribing their answers, they had access to their laptops and could communicate via MS Teams with the invigilators if they had any questions. There was generally little or no control over the conditions under which the students completed the exam (no proctoring), but the assessment had an enforced time period that limited candidates’ ability to ‘research’ answers. Module leaders were asked to redraft the exam questions in a way to encourage and test high-order thinking skills (ability to apply, analyse, evaluate and create) with integration across topics often based on authentic real-world problems or scenarios that required students to personalise or contextualise their answers. The students had not experienced this mode of assessment before, so all students were asked to sit for a mock exam at the beginning of each exam season. Extra time was given to students to scan their answers and upload the images by the designated end time for this. Although the students were briefed on what was and or was not permitted while they were sitting for the exam, the ultimate academic integrity of this mode of assessment was to ask students to implement an Honesty Code as if there were an invigilator. The assessors were also advised to use plagiarism detection tools for longer answer type questions. In addition, assessors were asked to design the questions in a way that they were not purely based on facts and definitions that could be easily Googled or shared. In an age that learning experiences are benefiting from digitisation and online resources,

this was a recognized risk and a reality check on the challenges of measuring the competency of students at the end of each module, particularly if they are exam based.

13.3.4 Long-Term Implications

While planning for the following academic years, it became evident that some elements of the mode of delivery during the pandemic should be carried forward. In a country such as the UK, where costs of any construction or building infrastructure are colossal, optimisation of physical learning spaces and their usage is a way of managing costs as well as adapting to the expectations of the generation of the third millennium. The cost of all the packages that were sent out to students as “lab-in-a-box” is hardly comparable with the ongoing cost of a lab, the equipment required, overheads, the secured space that can be used only for one purpose, and the need for travelling to that space. This of course does not mean those lab sessions should not be in person, but almost any space can be equipped within those boxes and be used as a lab ‘anywhere, anytime’. This enhances the flexibility of studying which is appreciated by many students (Gillet et al., 2001; Peng et al., 2020).

Unfortunately, it took us two years to bring the pandemic under control and this had serious impacts on the lifestyle and learning behaviour of students. Also, searching for information to gain quick access to online resources and databases has become part of daily life. This was something that assessors tried to control while running assessments online. However, it almost seems unreasonable to ask students to refer to hard copies of books or notes while everything else outside a university is going through a digital transition. Being able to bring laptops and access to a digital repository of notes during an exam can be another feature that is very likely to be carried forward to the next academic years now that it has been the main mode of running exams over the past two years.

Another need that became more apparent during the pandemic in educational environments was interactions with peers and the sense of belonging that should be part of the university experience for all students. This means that any programme offered at a university level, irrespective of the topics covered, should also foster inclusivity even if the nature of the classroom is fundamentally redefined. This is also illustrated in Chaps. 15 and 16.

13.4 Seoul National University of Education (SNUE), South Korea

13.4.1 The Context

The outbreak of Covid-19 has had a profound impact on higher education around the world. In South Korea, universities have had to rapidly adapt their teaching methods to cope with the restrictions on physical gatherings. This has led to a significant increase in the use of online teaching methods, which has in turn led to a reconsideration of the way in which my university approached teaching. SNUE is the premier pre-service elementary teacher training university in South Korea. It is also a research-focused institution with a significant number of academics who are trained educational practitioners. The student population comes from all regions of the country and is a competitive merit-based system comprised of entry scores and interview. I came to SNUE with an extensive background in tertiary online education having taught large cohorts of undergraduate students in Australia. Having been appointed three weeks before the early March spring semester, the expectation was to conduct face-to-face classes to a mixture of undergraduate, graduate, in-service teachers, and certificate-based training courses.

13.4.2 Initial Reactions

Initial communiques from the Academic Affairs Director in February 2020 indicated a two-week delay. Indeed, the Undergraduate Commencement Guide for 2020 directed academics to the Ministry of Education guidelines for the operation of schools thus indicating the influence of the Ministry for details and guidance. At this stage, procedural directives were given, highlighting the number of academic weeks and classes and that any deviations to this were to be meticulously recorded in the university learning management system (LMS). However, as further delays to the start of the academic year continued, the 4th postponement of face-to-face instruction had been announced and was scheduled for 25 May 2020. Classes had started via online instruction in late April 2020 and by July 2020, the university had a robust and formalised system of FAQ documents provided to both undergraduate and graduate schools by the Remote Lecture Task Force Support Team [원격강의 지원TF팀]. Academics who required assistance in filming and editing recordings of lectures could make bookings for the Teaching and Learning Support Centre Studio. Those who wished to stream and record their lectures live in class were able to book specially equipped lecture rooms as shown in Figs. 13.1 and 13.2.

It became clearer that delays would be announced as the pandemic's spread continued. Advisories were predicated on the status of the National Social Distancing Phases, and as these fluctuated, uncertainty in the activation of such phases, more than 50 confirmed persons per day was the threshold as of August 2020.



Fig. 13.1 Recording a live lecture in class



Fig. 13.2 Podium view of equipment

There are several cultural and conceptual influences that have shaped the way in which online teaching is being approached in Korean universities. Firstly, there is a strong tradition of face-to-face teaching in Korean universities. This is reflected in the fact that most university courses are still designed with the assumption that they will be taught in person. Indeed, an administrative colleague commented,

... a little worried they [in-service teachers] are really disappointed with [the cancellation of their] overseas program and some are complaining on [sic] this over and over. Hopefully they will be happy with our program and get over it.

Clearly, mitigating the impact of online instruction was from a defensive position. A competitive merit-based international short study tour is an impossible prize to replicate and while it is an extreme affective barrier to online learning, is emblematic of the challenges faced by me and my colleagues. I found myself in a position of ‘managing’ students and staff by extolling the benefits of online education. The same colleague, while observing my classes, wrote,

By the way, the intermission screen and the countdown thing was [an] amazing idea. How did you do that? If you are okay, could you let me know how to do that? I hope our teachers could use that and all [sic] can get back to class on time. It’s very clear and make [sic] us ready for the class after the break. Brilliant idea!

Whilst not an academic, clearly this colleague had seen an implementation of a time management solution as innovative and novel, worthy of sharing. Nevertheless, as time progressed, faculty and students alike had to make adaptations to their teaching and learning against a backdrop of uncertainty of the instructional mode of delivery.

13.4.3 Adapting to Blended Learning

It was clear to me that the initial training offered to academics was heavily skewed to replicating the face-to-face experience. Programs such as Zoom, Google Meetings, and Microsoft Teams were registered through the e-Class system, thus allowing a detailed record of attendance for both students and academics. It also allowed academics to use free versions of Zoom, for example, as the university institutional licenses activated via e-Class registration. Live lectures were to be 50 min long while recorded lectures could be 20 min or longer. Recording, editing, rendering, and uploading a 20-min video, in my experience, takes longer than delivering a live lecture. In terms of instructional design, the uncertainty of how long online delivery was to take place made the creation of materials with a longer ‘shelf-life’ and return of investment (ROI) difficult for academics to assess as the instructional arc for any one course was unknown.

The implications for this were significant as the move to blended learning taking place required academics to be flexible against the constant online/offline nature of instruction. A senior academic preferred blended delivery to purely online teaching,

Blended learning is better than online learning. We cannot depend on online completely. Face to face and online, it depends on the kind of study. For the study of English, it is appropriate.

As SNUE is a pre-service institution, a holistic view of the developing teacher was reflected by the same academic,

... but field experiences, practical study or group study is needed face-to-face. Of course, we can use Zoom group discussion, but until the meta-verse develops to a point where online is

better, our university's purpose is cultivating teachers. So, we need to develop not only their minds, but their characters and their ability to relate and communicate and with students.

The need for students to have hands-on experience was also emphasised,

... primary school students need experience with manipulating, so teachers also need to have this experience before they actually start teaching. Skilled teachers are more important than just knowledge. Online learning is not sufficient for teacher training especially for elementary teaching.

On the other hand, another colleague noted positive changes in her students while using online tools, such as breakout rooms in Zoom,

I think that my students have changed a little. Their discussion skills and attitude to it is better. We taught online during Covid-19 we used small groups in Zoom, breakout rooms. Before I used small group discussions in face-to-face classes but when I gave them discussion questions, they couldn't concentrate on-task immediately. However, the breakout rooms made them focus on the task and not interpersonal aspects. It was very effective.

A number of academics commented on the general manner of students. During Covid-19, it was common for academics to not 'see' their students in a face-to-face setting until their third year of studies (in 2022). Indeed, many students had not met their classmates in such a setting,

the freshman and sophomore students, have no experiences of face-to-face lectures. Third year students are likely to behave like first year students. I've heard from my colleagues that face-to-face class this semester [spring 2022] "the students are like freshman students". In attitudes and actions. Their behaviours are like freshman students. For example, they sit on their chair very rigidly, they seem too formal, not casual.

My experiences to date have mirrored those of my colleagues. Interestingly, during the early stages of online delivery, several students had an inability to stay focused while online from home. This was particularly the case for those with family members at home at the same time. The informal setting coupled with blurring roles as student-parent-partner made studying a challenge. Students longed for a return to campus, a way of having physical distance from their domestic domain, and to interact with their peers. However, as Covid-19 continued, a number of these students started developing self-regulated learning behaviours. These included setting-up dedicated learning spaces in their homes, closing doors and directing family members to not disturb them while 'in class', or finding alternative locations outside of the home.

13.4.4 Long-Term Implications

As of March 2022, academics were given a timeframe for a return to face-to-face instruction. The Undergraduate School was given until week 10 of a 15-week semester, to go back to face-to-face classes. In contrast, the Graduate School was solely at the discretion of the academic whether they continued online or not. Colleagues agreed to the continuation of online teaching when used in the Graduate

School. Most postgraduate students were either practicing teachers or employed. A colleague noted many instances where students,

... have to commute more than one and a half hours. They are living and working in a number of areas. Some are out of the greater Seoul area. I keep teaching online for them. These days I think graduate students still need to do informal learning opportunities and make connections with faculty and classmates. So, for graduate students next semester I will use half online and half face-to-face.

In addition to the independence of these students, the Graduate School does have smaller student cohorts compared to the Undergraduate School. The management and delivery of material at this level allows greater student and academic flexibility. Yet, despite this, there is a clear preference for face-to-face teaching over blended learning. This contrasts with my experiences in Australia, where blended learning is the norm in both undergraduate and postgraduate education courses using strategies identified in Chaps. 15 and 16. Indeed, the statutory requirements for pre-service teaching-training is critical in influencing such decisions.

I would prefer face-to-face than Zoom class. Education takes place in face-to-face situation. Zoom class is in nature, complementary method. I think it isn't a replacement. I will go back to normal. We have another complementary method. However, I won't use it often. The reason is my teaching area. It is important to communicate with them face-to-face. I stimulate their thinking processes and imagination.

Korea has an established remote system for both real-time public (IPTV and pay TV) broadcasting and on-demand educational websites. The government and Ministry of Education encouraged the use of such tools and many students and parents were exposed to these resources. While the extended use of online tools and techniques have become ubiquitous, the experience has brought about a wider philosophical view to education in general, as one colleague stated,

... [if] every student and teacher want to have online classes, not offline, what would happen? What would happen to us? They [society in general] can insist there is no need to be in school. The classroom, the playgrounds are not required. We can have online lectures.

This moved to the granular issue of the number of trained educators required and its implications for teaching and teacher training resulting in an instructional *modus vivendi*,

The second issue is why there are so many teachers? We need a few very excellent teachers. They could lecture to many students. We don't need a lot of teachers, or universities of education.

These views are framed against a society that is currently undergoing enormous challenges in manufacturing and employment in general. SNUE academics are involved in artificial intelligence (AI) themed research across disciplines, giving greater insight into the impacts technological change is having in education. Covid-19 and online education perhaps has given these academics an accelerated glimpse into the not-too-distant future.

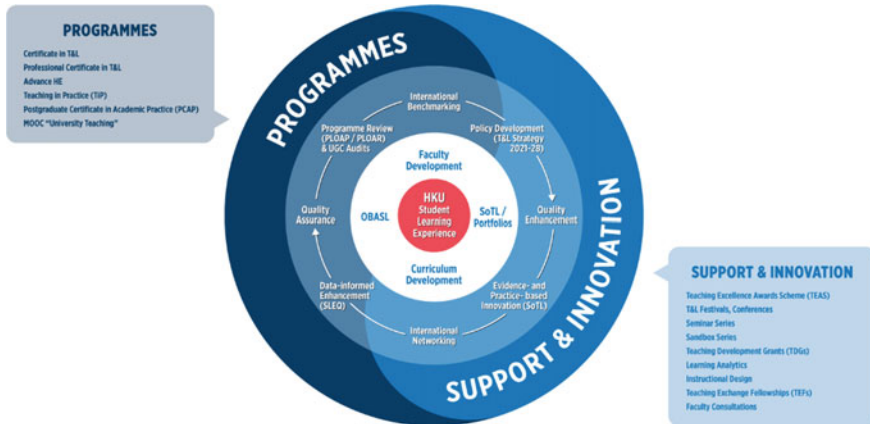


Fig. 13.3 CETL's core portfolios

13.5 The University of Hong Kong

13.5.1 The Context

As we write this in March 2022, the Hong Kong Special Administrative Region (HKSAR) is experiencing its 5th 'wave' of Covid-19. University campuses are, again, mostly closed with classes online while local schools begin an early summer holiday period in preparation for compulsory testing for the entire 7.5 million population. Life, therefore, remains fluid and flexibility and adaptability prevail. In our brief case study of blended learning at the Centre for the Enhancement of Teaching and Learning (CETL) at The University of Hong Kong (HKU), we reflect on our professional and curriculum development initiatives in the period 2019–22 as we aimed to support ~5.6 k academics and teaching support staff in online, virtual, blended and hybrid approaches for ~32 k total student population in a predominantly campus-based, research intensive institution (2020–21 census: <https://www.cpaio.hku.hk/qstats/overview>). In the process, the team has revisited our mission and strengthened our portfolios (Fig. 13.3).

13.5.2 Initial Reactions

Unique to the HKSAR story of the online 'pivot' was our pre-pandemic campus closure due to the social unrest in December 2019. As per the global experience with the initial response to the pandemic which Hodges and co-authors (2020) aptly coined as 'emergency remote teaching' (ERT), central to sustaining contact with students was the existing Learning Management System (LMS), in our case HKU

Moodle, with the emerging use of web meeting tools, namely Zoom and Microsoft Teams. Our return to campus in early 2020 was short-lived with the onset of Hong Kong's first wave of the pandemic from which has ensued 3 years of a range of approaches to on/off/hybrid-campus teaching. When invited to reflect on CETL's role during this period, one senior professor indicated the professional and personal impact of our key initiatives.

When HKU moved classes online because of the social unrest in 2019, CETL stepped up immediately as our pedagogical frontline emergency workers. Without CETL's help, figuring out how to turn a Zoom room into a classroom would have been next to impossible. When COVID brought another calamity to our campus, we all knew CETL would come to our aid as our e-education first responders. They provided teachers with all the training, tools, and support needed to keep courses going and our students engaged. Remarkably, the CETL team turned this ongoing crisis into an opportunity for all of us to think about our students' access to online materials, consider the quality of their home learning environments, and take stock of equity, inclusivity, ethics, and mental health as impacted by pandemic challenges. Their "sandbox" series of online workshops kept the faculty from being overwhelmed by remote, F2F-hybrid, flexible, synchronous and asynchronous options. CETL gave us a chance to connect, share, innovate, and find some comfort as teachers as we now live and learn online.

--Professor Gina Marchetti, Deputy Chair of Common Core Curriculum Committee and AoI—Global Issues Convenor

13.5.3 Adapting to Blended Learning

In the first transitions online in late 2019 and early 2020, Dr. Cecilia Chan, in heading CETL's *Innovation and Support* portfolio (Fig. 13.1), had the foresight to prioritize 'thought leadership' in curating a 10-session global initiative, "Education 4.0: Our Next Phase to Curriculum and Assessment Design International Virtual Series" which she and her team ran from July–August 2020. On taking up Directorship in mid-2020, Dr. Susan Bridges focused on grassroots, course-level support by creating a "Sandbox Series" in online course re-design. We have since been drawing this accumulated wisdom and experience into accessible online resources to define, frame and disseminate innovative practices in online, virtual and blended pedagogies. In what follows, we provide an overview of these three key responses in terms of focus, approach and impact. We then close with a reflection on how these have led to transformations in our approach to synchronous hybridity in blended learning at HKU.

13.5.3.1 Initiative 1: Education 4.0—Setting an Agenda

Teaching and learning online requires specialized skill sets and prepared mind-sets. Effective online instruction does not happen magically once we overcome the technology hurdles. Especially under Covid-19 when teachers and students are 'forced' into the adoption of online teaching, support needs to be in place to transform some

negative attitudes towards digital education (Sumer et al., 2021). To explore the next phase to curriculum and assessment design in blended learning, international experts were invited to attend what we named as “Education 4.0”, the first CETL seminar series to address the pandemic.

Focus: The Education 4.0 series had the following imperatives:

1. Examine the relationship between technology and pedagogy.
2. Investigate the development of hybrid course design and online teaching delivery, along with the corresponding uncertainties and conflicts.
3. Recognize the significance of developing collaborative and supportive learning and teaching community worldwide in blended learning.

Approach: The Education 4.0 Series served as a platform assembling international experts to share their ideas, reflections and challenges in the implementation of online and blended learning. The following are some key ideas from international experts in the seminar:

1. Technology supports pedagogy. Academics should only select appropriate technological tools that helps achieve their pedagogical purposes.
2. In a period of uncertainty, design for online first. It is easier to adjust for a return to campus rather than reverting to remote if conditions change. Learning designs that bring content to life are key in online and hybrid course designs. Human voice is emphasized to make course delivery personal.
3. A collaborative and supportive learning community should be inspiring for both academics and students. To develop this community, engaging in communication is essential for both parties. Academics are encouraged to think of out the box, be flexible and inclusive, as well as be inspired and prepared for understanding students’ experience, and on that account be responsive to their needs. Students are also encouraged to share their experience.

Impact: The Education 4.0 Series drew on international experts’ experience to explore and negotiate the optimal approach in blended learning, from course content creation to delivery. It highlighted the significance of students’ digital literacy development and proposed relevant solutions to minimize the gap between digital literate and illiterate students.

13.5.3.2 Initiative 2: The Sandbox Series—Supporting Grassroots Change

Focus: Like most universities in Hong Kong, the majority of HKU programmes were designed as on campus-leaning experiences and CETL’s own academics had little experience in designing fully online, distance education style courses. Susan had the unique experience of co-designing and co-teaching a course in one of only two fully online programmes in the University. The Sandbox initiative had three imperatives:

1. As a collective, the CETL academic team needed very rapid upskilling in online course delivery.

2. As a fundamental building block, the ‘course’ was the starting point for re-design support.
3. CETL had an imperative to support academic collegiality and community-building in a time of unprecedented strain on Faculty.

Approach: The “Sandbox Series” was built on the philosophy of creativity, playfulness and dialogue as part of a productive design process. It was an intensive format of 4×2 h sessions over a fortnight. A course re-design template provided a framework for the re-design process. Sessions began with a CETL academic providing a 20-min framing of a particular aspect of online learning (inquiry-based design, building collaboration, Universal Design for Learning etc.). Discipline-based zoom breakout discussions aimed to support community-building with colleagues sharing course outlines and brainstorming ideas for moving online. Each session closed with cross-group sharing of key takeaways. Resources generated were disseminated.

Impact: The initial “Summer Sandbox” evolved into a standing twice annual event in the inter-semester periods and continues to focus at the course level. It has moved from the initial phase of supporting course teachers in remote instruction to sharing planning tools and innovative blended and hybrid approaches.

13.5.3.3 Initiative 3: Resourcing Faculty Adaptation to Online and Blended Learning

The sandboxes identified the need to provide a common language so curating key definitions was a first important step in early 2020. Analyzing user navigation of CETL web resources assisted prioritizing of new directions. CETL’s Assessment Resources website provides theoretical and practical information on assessment methods, tools, and innovations, all organized into various categories, types, approaches, and fields. It has received over 1 million unique visitors (local and international) since its launch a decade ago. In 2021, this site received the highest hit rates (120,010 unique visitors) of our CETL resources illustrating academics’ struggle to replace traditional face-to-face assessments with online alternatives. Heightened web traffic overall illustrated the need for expanded resource generation to support adapting to online and blended learning and designing valid and reliable online assessment methods.

Focus: Our strategy was to improve accessibility to existing CETL resource pages and expand upon these as well as to curate resources for online course design.

Approach: Our resources pages offer a wide-range of resources assisting Faculty to adapt to online and blended learning, including:

1. The *Assessment Resources* website (ar.cetl.hku.hk), which acts as a resource platform in facilitating and promoting good assessment and feedback practices;
2. Sandbox resources (internal);
3. Tips, quotes and reflections of the week (i.e. infographics of step-by-step design tips on various alternative assessments, reflection on motivating students in online learning, etc.);

4. Dual mode website, in which resources such as animated videos, tips and tricks, teachers' feedback and insights, international best practices, etc. on dual mode teaching are provided; and
5. A *technology enhanced learning* (TeL) website with animated videos of good TeL practices, as well as showcases of HKU colleagues' effective adoption of TeL.

Impact: In response to the COVID-19 pandemic, the CETL team had to act fast. This included upskilling with self-taught sessions on how to develop animated videos, infographics etc. as well as familiarizing ourselves with tools and technologies academics were implementing such as Miro and Perusall, to name a few. Overall, novel resource curation and development will be one of the sustained and enduring outcomes of the pandemic era.

13.5.4 Long-Term Implications: Transforming Learning Spaces

HKU's brief experimentation with a partial return to campus in September 2020 laid bare a new challenge - synchronous hybrid or 'dual-mode' teaching. Our prior research indicated emerging practices in face-to-face blended classroom environments but we were less experienced with designing for physical/ virtual interactions in real time (Bridges et al., 2020a, 2020b). Teachers were not prepared for the complexities of facilitating synchronous engagement (Hmelo-Silver et al., 2019) and we observed that students preferred to zoom into synchronous lecture theatres from home or other locations on campus rather than join the teacher in-person (Zeng & Bridges, 2021). Our CETL Learning Lab (launch date May 2022, <https://learninglab.cetl.hku.hk/>) (Fig. 13.4) is our foray into the next phase of faculty development for new 'postdigital' learning spaces (Lamb et al., 2022; Rapanta et al., 2020). A governing principle of the hybrid learning desk design (patented in the HKSAR and Mainland China as a "Hybrid Learning Mobile Desk Console") as noted in the 2022 Horizon report was to enhance group interactivity and collaboration by physically locating the zoom participants in the *centre* rather than at the *periphery* of the group (Educause Publications, 2022). As discussed in Chap. 16, the new norm of blended learning is enabled by lessons like ours learnt during the Covid-19 pandemic.

13.6 University of Danang, Vietnam

13.6.1 The Context

Vietnam is a country situated in Southeast Asia. It has 240 universities in total with two large national universities and three regional universities. University of Danang



Fig. 13.4 The CETL Learning Lab (2022)

(UD) is a key regional university of the country, consisting of six member universities (including University of Science and Technology, University of Economics, University of Foreign Language Studies, University of Science and Education, University of Technology and Education and Vietnam-Korea University of Information and Communication Technology) and seven affiliated units. UD provides multi-field, multi-level, and multi-disciplinary training programmes with 134 undergraduate programs, 46 master's training majors and 28 doctoral ones. UD currently has over 50,000 full-time students and 2,500 faculty and staff members (Vu, 2021). Prior to the outbreak of the Covid-19 pandemic, UD has been active in applying Information Communications Technology (ICT) to managing their teaching and learning activities. To date, the University of Danang has had a total of 24 training programmes accredited by ASEAN University Network (AUN) to meet international quality standards.

Since the Covid-19 pandemic struck the globe in early 2020, Vietnam has undergone four waves of outbreak. The first one started on 23rd January 2020 with only 25 cases, followed by the second wave in March 2020 with an increase to 263 cases. Vietnam implemented stringent strategies such as border closure, contact tracing, mandatory quarantines, travel bans, business closures, lockdowns, and widespread testing. Vietnam was hailed as a great success in keeping the number of infected cases low with no death and no community transmission. This achievement could not last long due to a resurgence of infected cases in July 2020 with 8,551 locally transmitted cases recorded between July and September 2020. Vietnam managed to keep the situation under control by applying the same Zero Covid strategies used in earlier outbreaks.

The arrival of the Delta variant in April 2021 marked the onset of the fourth wave with a thousand infected cases and increasing deaths reported on a daily basis. The

highest single-day record was 9,684 cases on August 8, 2021. Harsh lockdown restrictions with stay-at-home order, business closures and mass testing were imposed. Due to vaccine shortages, Vietnam, at the time, had a low vaccination rate with only 1% of the population fully vaccinated with two doses, and 7.7% with at least one dose in mid-August 2021. With millions of vaccine doses donated from foreign countries, Vietnam was able to inoculate 100% of adults five months later, which helped to contain the spread.²

Since October 2021, Vietnam has resumed its socio-economic and educational activities, marking the transition from zero Covid to safe and flexible adaptation and effective control over the pandemic. Vietnam has implemented 5 K regulations including “facemask, disinfection, distancing, no gathering, and health declaration”, increased people’s awareness of testing, quarantine and treatment and accelerated vaccination for its people. With nearly 85% of its population vaccinated, Vietnam is entering a new normal and living safely with the Covid-19 pandemic.

13.6.2 Initial Reactions

In the face of an increasing spread of Covid-19, the Vietnam Ministry of Education and Training (MOET) announced the closure of nationwide educational institutions on 2nd February 2021. With the motto “suspending school, not stopping learning”, some universities took initiatives to adapt face-to-face teaching to distance and online teaching in the first outbreak of Covid-19. UD allowed lecturers to be flexible in utilising available technological means such as social networking sites or Moodle-based Learning Management System (LMS) to organise online classes and maintain the delivery of knowledge. While many lecturers decided to delay classes, some others conducted online classes on videoconferencing platforms such as Zoom, Microsoft Teams or Google Meet or created online groups on social networking sites, mainly Facebook or Zalo to meet with students and transfer learning content. These lecturers were mainly enthusiasts for applying ICT to teaching and possessed good technological competencies. They also made use of LMS to provide timely announcements, upload learning materials, and create quizzes and discussion forums for students to interact. At this stage, UD did not buy full licenses for videoconferencing platforms, which hindered the organisation of pair or group work. Several lecturers used their own money to pay for advanced versions of these platforms so that they could implement interactive learning activities.

² The data on the number of Covid cases and vaccination rate were obtained from the official website of Vietnam Ministry of Health (https://moh.gov.vn/vi_VN).

13.6.3 Adapting to Blended Learning

When the second wave of Covid-19 hit, MOET specified instructions on implementing distance and online teaching in response to the Covid-19 outbreak in its Official Dispatch 795/BGDĐT-GDĐH dated 13th March 2021 to achieve consistencies in online teaching execution among higher education institutions (HEIs). 110 out of 240, accounting for 45% of HEIs in Vietnam, transformed to online teaching at different levels (Tam, 2020). While some universities have had complete online training systems with LMS and Learning Content Management System (LCMS), especially those who are implementing online distance education, others rapidly developed their systems at this stage. Afterwards, MOET issued an official dispatch—988/BGDĐT-GDĐH with specific guidelines on assuring quality of online distance teaching during the Covid-19 outbreak.

In accordance with MOET's guidance, UD made online teaching mandatory and offered comprehensive instructions on ensuring the quality of online teaching at its member universities. These include lecturers modifying syllabus, especially teaching and assessment methods and lesson plans to suit online teaching, ensuring the equivalence of learning outcomes between face-to-face and online teaching mode, assisting learners in achieving course outcomes, conducting online teaching with “active learning” orientation and “placing learners at the centre”, creating opportunities for learners to interact and discuss within the allowed time of lessons, offering easy and convenient access to digital learning resources on LMS, LCMS or other online tools, using additional technologies if required, and supporting and maintain communication with learners via various communication channel and giving learners timely feedback. UD required member universities to guarantee technological reliability, provide training on using new technologies including videoconferencing platforms, use of LMS/LCMS and other software if necessary for lecturers and students, enable students to access online learning via many devices and instruct them to study online effectively. The IT staff need to be readily available to provide technological support to lecturers and students. UD also regulated that each member university must have officers from their Department of Inspection and Legislation³ to join online classes so that they could observe lecturers' teaching and check if the lecturers taught online classes according to schedule.

In this circumstance, most lecturers were faced with a quick and sudden transition mid-semester with two or three weeks for preparation. Online training workshops on how to conduct online classes on videoconferencing platforms and to utilise LMS were immediately provided for lecturers. However, this support centred around technological rather than pedagogical issues and the university did not provide good examples or exemplars of online teaching for lecturers. As most of the lecturers were novices in online teaching, they needed a great deal of time to acclimatise themselves with new software and learn how to teach in a new environment smoothly and effectively. Under time and workload pressures and meeting the requirements

³ The Department of Inspection and Legislation is in charge of implementing internal inspection activities in the field of school activities to prevent and detect violations of law.

of the university to achieve a high quality of online teaching, many lecturers were overwhelmed, disheartened, frustrated, disoriented, and to some extent, resistant in the first phase of online teaching execution. One lecturer commented,

Due to the pandemic of corona virus, we had to switch directly and very quickly to the online teaching. Everything was just like overnight, just a shock, but we needed to adapt to this.

The IT staff were frequently overloaded with requests for assistance from lecturers. Even though the member universities of UD have gained full licenses for videoconferencing platforms namely Zoom, MS Teams and Google Meet at this stage, some lecturers encountered challenges in using their advanced features. To keep it simple, many replicated their face-to-face classes in the online environment and prioritised transmission of learning content over interactive activities. The interaction mostly consisted of lecturers asking questions and students providing answers, rather than discussion among students, with a focus on consolidating the body of knowledge delivered in online classes. Regarding the use of LMS, the lecturers uploaded digital learning materials, supplementary learning resources such as short videos, readings, or PowerPoint files onto the system. Even though LMS has been long used at UD's member universities, especially in AUN-accredited programs, it was primarily used as a repository of information or giving announcements. Not many lecturers were able to organise meaningful learning activities on LMS as one lecturer observed,

Teachers should be trained to become the designers of the course online (on LMS). I'm not sure that all the teachers can be the good designers of their course online.

On the bright side, a proportion of lecturers at UD's member universities who are experienced in teaching online distance courses at UD's centre of online distance education or, already did online teaching in the first outbreak, adapted rather quickly to the transition to online teaching. These lecturers tended to do more interactive teaching and employ a wider array of learning activities such as discussion, debate, or group work. They additionally created quizzes, assignments, and asynchronous discussion forums on LMS.

After the initial shock, trials and errors, many lecturers have adapted well to this online teaching mode. Their participation in online experience-exchanging workshops and seminars conducted at UD's member universities and other universities nationwide also helped to enrich their online teaching practices. The lecturers learnt to pare back the curriculum to essential content or a 'more is less' approach (Scull et al., 2020), employ varied learning activities in their online classes, and offer ongoing support for students through various communication channels such as email, text messages or online chat tools such as Facebook or Zalo. They were also more confident in handling technological issues and took advantage of LMS for supplementing synchronous online learning and assessing students' performance. The content which could not be taught in online classes was often assigned as take-home quizzes or assignments, which helped to ensure the coverage of necessary content in the curriculum and develop students' self-study abilities. The enthusiasm and interest in online learning of both lecturers and students appeared to grow and

some lecturers reported that their students preferred online to face-to-face learning. Mid-term and final-term examinations were also conducted online.

Online teaching lasted for nearly one year from March 2021 till February 2022. After the Lunar New Year of 2022, UD requested lecturers to gradually transition to onsite teaching. Training workshops for conducting a new model of classroom teaching called “two in one”—a combination of in-person and online teaching were provided for lecturers. The lecturers use videoconferencing platforms to teach in physical classrooms so that they can interact with in-class students and Covid-infected students from their locations. A camera is set up in the classroom and the lecturers can adjust its angle so that online students can observe their teachers or classmates or the board. When the number of infected students decreases, face-to-face teaching will again be the dominant mode of teaching at UD. LMS continues to be used as a supplement to on-site teaching. Online teaching will be re-instated only if there is a surge in Covid cases in the locality.

13.6.4 Long-Term Implications

It can be said that the Covid-19 pandemic has changed the views of lecturers and students about the importance of online learning and brought about opportunities to implement online learning in HEIs. Recently, MOET reviewed regulations of training for undergraduate and postgraduate programs and added a new point related to online learning. Educational institutions are allowed to conduct online classes with the condition that the amount of studying load in these classes does not exceed 30% of the total amount of that training program. Besides, the institutions ought to meet the current regulations in applying ICT to managing and training via the Internet and to ensure the equivalence of quality between online and offline classes. It is obvious that onsite teaching is the priority for HEIs in Vietnam and online teaching is mainly used as a response measure to the health crisis to maintain the continuity of teaching and learning. A good sign is that new regulations have provided more capacity for online learning and accelerated its application in the years to come.

13.7 Conclusion and Implications for the New Normal

The five case studies provide detailed insights about the processes of adaptation to online and blended learning following the onset of Covid-19. Each case study also considers how and to what extent the universities in question will build upon the changes which have taken place into the future and continue to use forms of blended learning with an online component. This conclusion concentrates upon analysing the ongoing use of blended online learning, as insights from this topic are most likely to be of value to readers who are themselves in the process of adapting to online and blended learning.

13.7.1 Influences on the Nature and Degree of Adaptation

The five case studies report a degree of variation in the nature and extent of adaptation following the onset of Covid-19. An analysis of the five case studies suggests three factors or influences which contribute to explaining the form of the change in each university. These three influences are examined in this section as they, not only contribute to an explanation of the form of adaptation, but also suggest insights into ongoing processes by providing an explanation of to what extent and in what form blended online learning will continue to be employed in the future.

13.7.1.1 Face-to-Face Teaching

Many teachers who had to adapt to blended and online learning following the onset of Covid-19 had little or no experience of these forms of teaching and learning. It was also quite common for their universities to have limited expertise in online and blended teaching, so were constrained in being able to offer advice and lacked the sophisticated learning management systems and supporting infrastructure normally found in universities with substantial online offerings.

Not surprisingly, those with little or no experience of online or blended teaching, based their adapted teaching on the form of teaching they did have experience of; their face-to-face teaching. The need to adapt so quickly (Imperial College adapted over one weekend) no doubt contributed to following face-to-face teaching, as it left no time to research, develop and implement alternatives.

Another influence on the model of teaching adopted would appear to be the predominant concern for mastering the technology. For most, this would be the first occasion for teaching through a technological media; it is then not surprising that technological concerns took precedence over pedagogical ones. Adopting an approach closest to the one they were familiar with was, not surprisingly, the result.

The logical outcome of following the face-to-face model of teaching was teaching through an online communication platform, such as Zoom or MS Teams. This approach enabled teachers to follow their normal teaching approach and schedule, but through the online communication platform, rather than in the classroom. Lectures, tutorials and seminars were translated into this medium, albeit with reductions in any previous degrees of interaction. Practical work needed other creative solutions.

The use of online communication platforms in teaching was also no doubt also influenced by its sudden prevalence as a medium for the numerous meetings which have become integral to academia. Just as the students could not go to class, academics could not go to meeting rooms.

A significant feature of this approach to teaching, modelled on previous face-to-face teaching, is that it is synchronous. Teaching and learning take place simultaneously. The class schedule or timetable is still needed. However, as explained in Chap. 4, in universities with a contemporary model of admission and course delivery, online teaching is very largely asynchronous. Online teaching is one of the

key components of open learning, because its' asynchronous nature allows students to study at a time and place which suits them, rather than committing to a class schedule. The models of supportive online teaching in Chaps. 14 and 15 and the online components of the blended learning described in Chap. 16, all assume that online teaching and learning is asynchronous. This assumption is well ingrained in online teaching, to the extent that it is often assumed, rather than explicit. The other key distinction is that the models in Chaps. 14, 15 and 16 assume that teaching and learning primarily take place through a sophisticated learning management system, whereas the case studies suggest that universities primarily turned to online communication platforms post-Covid.

13.7.1.2 The Spectrum of Admission and Course Delivery

The spectrum from traditional to contemporary for admission and course delivery has been drawn upon as an explanatory construct through the book. It was introduced in Chap. 4 and features prominently in Chaps. 5, 6, 7, 10, 11, 12, 17, 19 and 20. It is also a useful conceptual framework for interpreting the nature and variety of universities' approaches to teaching and learning post-Covid and the degree to which blended learning will continue to have an influence.

Universities at the traditional end of the spectrum largely recruited undergraduate students who were high achievers in the secondary school system. Teaching was largely on campus. Universities at the contemporary end of the spectrum had shifted towards the three key components of open learning, of which online learning is the most significant for the purposes of this chapter. The adoption of principles of open learning permitted the entry of a more diverse student body, with the majority of study taking place off campus.

The position of a university on the spectrum of admission and course delivery provides an explanatory framework for the ways in which universities adapted to the onset of Covid-19. Universities at the traditional end of the spectrum reacted to students being unable to come onto campus by turning to forms of online teaching which most closely resembled the traditional model. As explained above, the common model appears to have been synchronous teaching through online communication platforms.

Through the book, the University of Tasmania (UTAS) has been used as an example of a university near the contemporary end of the spectrum for admission and course delivery. Its response to Covid that was quite different. Chap. 4 noted that, even before Covid, over 70% of undergraduate students were enrolled for all or most courses in the online mode. The University, therefore, decided that, as an ongoing basis, all lectures for students enrolled in on-campus courses were to be replaced by online learning materials. On-campus classes were to be reserved for interaction and activities. New buildings, necessitated by campus relocation to city centres, will not contain lecture theatres, but have smaller more flexible teaching spaces. This will enable blended delivery of teaching and learning as illustrated in Chap. 16.

The spectrum also appears to have utility in predicting and explaining the degree to which blended learning will continue post-Covid and the nature of the online component of the blended learning. This will be discussed in the next main section of this Chapter.

13.7.1.3 Cultural Influences

The third explanatory framework for interpreting adaptations during and post-Covid is cultural influences of perceptions of online learning and forms of distance education. Confucian-heritage countries have traditionally held a reverence for education and teachers, with the school examination system having profound importance. The traditional respect for education is manifest as a strong preference for face-to-face teaching.

The effects of these cultural influences can be seen in the case studies from South Korea and Vietnam. With the onset of Covid, classes have been held either through online communication platforms or live streaming. There appears to be a press towards returning to normal on-campus classes as soon as permitted by Covid-19 restrictions.

13.7.2 Implications for Future Forms of Blended Learning

The five case studies showed variations in the response to the onset of Covid-19. The interpretation of influences on why these variations occur implied that there is going to be diversity in the degree to which the Covid-19 era has a longer term impact upon teaching and learning practices and the nature of ongoing forms of instruction. Nevertheless, setting the clock back to the old normal seems unlikely. The impact of Covid-19 has been so momentous that, for many universities, it seems highly likely that there will be an ongoing impact. The remainder of this concluding section, therefore, considers the insights from the interpretation of the case studies to consider how the models of the next three chapters might provide guidance to universities going forward into the new normal.

The requirement for universities to make use of online forms of teaching and learning by the Covid-19 outbreak has meant that many universities and their teachers and students have seen that there are advantages to the use of online teaching and learning for some purposes. On the other hand, the inability to go on campus has heightened appreciation of the value of the student on-campus experience; not necessarily for all instruction, but for experiences which cannot be replicated online. The way forward is, therefore, likely to be forms of blended learning which meld together online and on-campus experiences in ways which take advantage of the strengths and characteristics of each. The remainder of this chapter will discuss the guidance this chapter and the next three can provide for the nature of this optimum form of blended learning.

13.7.2.1 Online Component

The rational way to utilise the online component of blended learning is for making available learning materials or the delivery of content. The case studies suggest that, when universities have adapted post-Covid-19, this has been the primary function of the online component. However, the analysis above and the models in the following three chapters present compelling evidence that the online component should be made available through a learning management system so that students can access and study them asynchronously.

Chaps. 14, 15 and 16 present and illustrate a model for supportive online teaching which is ideal for the online component of blended learning. Chap. 16 gives a detailed illustration of a blended learning course on anatomy and physiology which incorporates the four pedagogical elements of the model. The following three chapters provide qualitative and quantitative empirical evidence and detailed illustrations of the four pedagogical element model, derived from a university which had adopted a contemporary model of admission and course delivery and, therefore, had considerable experience of online teaching and learning. The next four sub-sections will discuss each of the four pedagogical elements to consider the implications for the ongoing development of teaching and learning for universities which have had to suddenly adapt to teaching online because of Covid-19; particularly those near the traditional end of the spectrum for admission and course delivery, with limited experience of teaching online prior to Covid.

Bite-Sized Videos

On-campus teaching traditionally timetables one-hour or 50 min lectures. The model calls for content and other learning materials to be broken down into small segments and made available through the learning management system to allow for asynchronous study. Delivering a 50 min didactic lecture through an online communication platform is definitely not recommended. Instead, it is better to pre-record short videos, which can be of varied types, as illustrated in Chaps. 15 and 16.

Well Organised Learning Content

It might be argued that this should be a feature of any teaching, so should translate well from on-campus teaching. An argument has been made above, though, that learning materials should be pre-prepared or pre-recorded and made available to students through a learning management system. This is illustrated in Chaps. 15 and 16. The requirement for advanced planning and pre-preparation usually results in well organised learning content, which is not always the case with live lectures.

Discussion Forums and Activities to Promote Student Interaction

These are not a normal feature of on-campus teaching and the case studies showed that few of those who had to adapt post-Covid had incorporated them into their blended learning. Chaps. 15 and 16, though, show that online and blended learners needed interaction and activities to help them understand and learn the content. Discussion forums and activities made available through the learning management system provide a way for the teacher to provide learning support to students while they are working through the learning materials online in an asynchronous mode.

Furthermore, the learners need this support to be available while they are studying the materials online. As this study commonly takes place individually at home, help will only be available from peer students if it is through the online platform. The students need the help to be available while working through the learning materials, rather than having to wait for an on-campus class. Deferring help to on-campus sessions results in students becoming stuck if they encounter a problem.

Individual Help

Studying off-campus in isolation inevitably results in individual queries. Effective blended teaching means being responsive to individual issues through email and phone. Again, this individual help through virtual channels is not a common feature of on-campus teaching, so has probably not featured when universities have adapted to blended learning post-Covid.

For the last two points, it is not good practice to expect that such help comes entirely through the face-to-face sessions incorporated into blended learning. Firstly, students need help when they encounter a problem, rather than having to wait for a class. Secondly, the reduced number of classes now held, tend to be primarily dedicated to key activities like practical work, leaving little time for answering queries.

13.7.2.2 On-Campus Component

The case studies make it clear that there is a desire for the return of on-campus teaching. Some still appear to harbour a desire to return to the old normal. Coming across more strongly, though, is recognition of what has been missed about the on-campus experience, which has led towards a resolve to ensure on-campus classes feature interaction, connectedness, experiential learning, active learning and practical experiences.

The overall approach can perhaps best be described as a flipped classroom blended learning approach, in which learning materials and content are online and on-campus or face-to-face sessions are reserved for classes which involve discussion, learning activities, practical work, experiential learning and a whole variety of other forms of active and interactive learning. This is illustrated in Chap. 16. Going forward, there

is a need for an applied research agenda focusing on developing and evaluating the types of on-campus learning experiences which can best complement content and learning materials made available online in the blended learning of the new normal.

The degree to which universities move down this track towards a flipped classroom approach to blended learning will be dependent on the two main influence or factors identified above: position on the traditional to contemporary spectrum of admission and course delivery; and, cultural influences. Universities which have been towards the traditional end of the spectrum of admission and course delivery will be less well positioned to adopt asynchronous forms of online learning for delivering content and learning materials. They will, though, face a greater press towards returning towards on-campus classes. Hopefully, these will be of the interactive type, rather than a return to didactic lectures.

A transition towards a flipped classroom approach to blended learning has implications for the design of learning spaces. If students learn content online through asynchronous learning materials on a learning management system, there is no need for lectures and, therefore, no need for lecture theatres. The types of interactive classes which are a component of the flipped classroom approach to blended learning need smaller flexible learning spaces, well equipped with IT and technology. UTAS, the university used as an example of the university near the contemporary end of the spectrum of admission and course delivery, has already moved towards new campus buildings with no lecture theatres, but instead small flexible learning spaces. The Imperial College case study is also of interest in that it suggests that even laboratory spaces may be re-envisioned.

References

- ABS (Australian Bureau of Statistics). (2022). *International trade in good and services, Australia*. Available at <https://www.abs.gov.au/statistics/economy/international-trade/international-trade-goods-and-services-australia/dec-2021>
- Alexander, S., Littlejohn, A., Sharpe, R., Bennett, S., & Varga-Atkins, T. (2021, December 17). COVID has changed students' needs and expectations. How do universities respond? *The Conversation*. Available at <https://theconversation.com/covid-has-changed-students-needs-and-expectations-how-do-universities-respond-172863>
- Bale, R., & Seabrook, M. (2021). *Introduction to university teaching*. SAGE.
- Bone, E.K., French, S., Deneen, C.D., & Prosser, M. (2021, December). Disruption as a catalyst for change? Effects of COVID-19 on the perceptions and approaches of academics in their teaching. *Society for Research into Higher Education Annual Conference, United Kingdom*. Proceedings available at <https://srhe.ac.uk/arc/21/SRHE2021-0329.pdf>
- Bonfield, C. A., Salter, M., Longmuir, A., Benson, M., & Adachi, C. (2020). Transformation or evolution? Education 4.0, teaching and learning in the digital age. *Higher Education Pedagogies*, 5(1), 223–246. <https://doi.org/10.1080/23752696.2020.1816847>
- Brady, K. (2020, October 27). Dear Australia, your sympathy helps but you can't quite understand Melbourne's lockdown experience. *The Conversation*. Available at <https://theconversation.com/dear-australia-your-sympathy-helps-but-you-cant-quite-understand-melbournes-lockdown-experience-148900>

- Brame, C.J. (2017). Effective educational videos: Principles and guidelines for maximizing student learning from video content. *CBE—Life Sciences Education*, 15(4). <https://doi.org/10.1187/cbe.16-03-0125>
- Bridges, S. M., Chan, L. K., Chen, J., Tsang, J., & Ganotice, F. (2020a). Learning environments for interprofessional education: A micro-ethnography of sociomaterial assemblages in team-based learning. *Nurse Education Today*, 94. <https://doi.org/10.1016/j.nedt.2020.104569>
- Bridges, S. M., Hmelo-Silver, C. E., Chan, L. K., Green, J. L., & Saleh, A. (2020b). Dialogic intervisualizing in multimodal inquiry. *International Journal of Computer-Supported Collaborative Learning*, 15, 283–318. <https://doi.org/10.1007/s11412-020-09328-0>
- Cairns, M. R., Ebinger, M., Stinson, C., & Jordan, J. (2020). COVID-19 and human connection: Collaborative research on loneliness and online worlds from a socially-distanced Academy. *Human Organization*, 79(4), 281–291. <https://doi.org/10.17730/1938-3525-79.4.281>
- Cifrián, E., Andrés, A., Galán B., & Viguri, J. (2020) Integration of different assessment approaches: Application to a project-based learning engineering course. *Education for Chemical Engineers*, 31(2020), 62–75. ISSN 1749–7728. <https://doi.org/10.1016/j.ece.2020.04.006>
- de Graff, E., & Kolmos, A. (2007). *Management of change: Implementation of problem-based and project-based learning in engineering*. ISBN 90-8790-013-9. Sense Publishers.
- EDUCAUSE Publications. (2022). *2022 EDUCAUSE Horizon report teaching and learning edition*. <https://library.educause.edu/resources/2022/4/2022-educause-horizon-report-teaching-and-learning-edition>
- French, S., Bone, E.K., Connelly, C.F., & Mulder, R. (2022). Characterising approaches to online curriculum delivery during COVID-19, and their impact on student experiences. *Presentation to the Higher Education Research and Development Society of Australasia annual conference, Melbourne, Australia*. Available at <https://doi.org/10.26188/20022896>
- Gillet, D., Latchman, H. A., Salzmann, C., & Crisalle, O. D. (2001). Hands-on laboratory experiments in flexible and distance learning. *Journal of Engineering Education*, 90(2), 187–191. <https://doi.org/10.1002/j.2168-9830.2001.tb00589.x>
- Hall, T., Connolly, C., Grádaigh, S. O., Burden, K., Kearney, M., Schuck, S., Bottema, J., Cazemier, G., Hustinx, W., Evens, M., Koenraad, T., Makridou, E., & Kosmas, P. (2020). Education in precarious times: A comparative study across six countries to identify design priorities for mobile learning in a pandemic. *Information and Learning Science*. <https://doi.org/10.1108/ILS-04-20200089>
- Harvey, A., Burnheim, C., & Brett, M. (2016). Towards a fairer chance for all: Revising the Australian student equity framework. In A. Harvey, C. Burnheim, & M. Brett (Eds.), *Student equity in Australian higher education: Twenty-five years of a fair chance for all* (pp. 3–20). Springer. https://doi.org/10.1007/978-981-10-0315-8_1
- HESA. (2022, June). *The higher education statistics agency, the designated data body for England*. Accessed <https://www.hesa.ac.uk/news/27-01-2021/sb258-higher-education-student-statistics/numbers>
- Hillier, M. (2018). Bridging the digital divide with off-line e-learning. *Distance Education*, 39(1), 110–121. <https://doi.org/10.1080/01587919.2017.1418627>
- Hmelo-Silver, C., Bridges, S. M., & McKeown, J. (2019). Facilitating problem-based Learning. In W. Hung, N. Dabbagh, & M. Moallem (Eds.), *Wiley handbook of problem-based learning* (pp. 297–320). John Wiley & Sons, Inc.
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). *The difference between emergency remote teaching and online learning*. Retrieved from educause review <https://er.educause.edu/articles/2020/3/the-difference-between-emergencyremote-teaching-and-online-learning>
- Kandiko, C. B., & Blackmore, P. (2012). The networked curriculum. In P. Blackmore & C. B. Kandiko (Eds.), *Strategic curriculum change: Global trends in universities* (pp. 3–20). Routledge.
- King-Sears, M. (2009). Universal design for learning: Technology and pedagogy. *Learning Disability Quarterly*, 32(4), 199–201. <https://doi.org/10.2307/27740372>

- Kyne, S. H., & Thompson, C. D. (2020). The covid cohort: Student transition to university in the face of a global pandemic. *Journal of Chemical Education*, 97(9), 3381–3385. <https://doi.org/10.1021/acs.jchemed.0c00769>
- Lamb, J., Carvalho, L., Gallagher, M., et al. (2022). The postdigital learning spaces of higher education. *Postdigital Science and Education*, 4, 1–12. <https://doi.org/10.1007/s42438-021-00279-9>
- Larkins, F., & Marshman, I. (2021, May 13). Big-spending ‘recovery budget’ leaves universities out in the cold. *The Conversation*. Available at <https://theconversation.com/big-spending-recovery-budget-leaves-universities-out-in-the-cold-160439>
- Littleton, E., & Stanford, J. (2021, September). *An avoidable catastrophe: Pandemic job losses in higher education and their consequences*. Australia Institute Centre for Future Work Report. Available at https://www.futurework.org.au/job_losses_accelerating_in_higher_education
- Marshman, I., & Larkins, F. (2020). *Modelling individual Australian universities resilience in managing overseas student revenue losses from the COVID-19 pandemic*. Centre for the Study of Higher Education, University of Melbourne. Available at <https://melbourne-cshe.unimelb.edu.au/fellow-voices/modelling-individual-australian-universities-resilience-in-managing-overseas-student-revenue-losses-from-the-covid-19-pandemic>
- Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning*, 22(1), 205–222. <https://doi.org/10.24059/olj.v22i1.1092>
- Peng, P., Barham, G. R., Hunnicutt, W., Li, L., & Moment, A. J. (2020). Designing a hybrid biopharmaceutical laboratory course to enhance content flexibility and access. *Journal of Chemical Education*, 97(9), 3121–3128.
- Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2020). Online university teaching during and after the covid-19 crisis: Refocusing teacher presence and learning activity. *Postdigital Science and Education*, 2(3), 923–945. <https://doi.org/10.1007/s42438-020-00155-y>
- RMIT ABC Fact Check (2021). Josh Frydenberg says Melbourne is the world’s most locked down city. Is that correct? ABC News Online, Oct 24, 2021. Available at: <https://www.abc.net.au/news/2021-10-25/fact-check-is-melbourne-most-locked-downcity/100560172>
- Rubin, M., Evans, O., & McGuffog, R. (2019). Social class differences in social integration at university: Implications for academic outcomes and mental health. In J. Jetten, K. Peters (Eds.) *The social psychology of inequality*. Springer. https://doi.org/10.1007/978-3-030-28856-3_6
- Scull, J., Phillips, M., Sharma, U., & Garnier, K. (2020). Innovations in teacher education at the time of COVID19: An Australian perspective. *Journal of Education for Teaching*, 46(4), 497–506. <https://doi.org/10.1080/02607476.2020.1802701>
- Sublett, C. (2022). The access–equity dualism of online learning in community colleges. *New Directions for Community Colleges*, 2022(198), 25–36. <https://doi.org/10.1002/cc.20508>
- Sumer, M., Douglas, T., & Sim, K. N. (2021). Academic development through a pandemic crisis: Lessons learnt from three cases incorporating technical, pedagogical and social support. *Journal of University Teaching and Learning Practice*, 18(5), 1. <https://eric.ed.gov/?id=EJ1325729>
- Tam, T. (2020). 110 universities implemented online distance teaching. *Vietnam Law Newspaper*. <https://baophapluat.vn/110-truong-dai-hoc-trien-khai-dao-tao-truc-tuyen-post341986.html>
- Taylor, K. L., Kenny, N. A., Perrault, E., & Mueller, R. A. (2021). Building integrated networks to develop teaching and learning: The critical role of hubs. *International Journal for Academic Development*, 1–13. <https://doi.org/10.1080/1360144X.2021.1899931>
- Universities Australia. (2022, February 18). Safe return to vibrant, on-campus life. *Media Release*. Available at <https://www.universitiesaustralia.edu.au/media-item/safe-return-to-vibrant-on-campus-life/>
- Universities UK. (2022, June). HESA data from 2018–2019. Accessed <https://www.universitiesuk.ac.uk/what-we-do/creating-voice-our-members/media-releases/huge-economic-contribution-universities>
- Vu, N. N. (2021). *Greeting and message*. The University of Danang. Retrieved May 7, from <https://www.udn.vn/english/about-us/greeting-and-message>

- Yuriev, E., Clulow, A. J., Jennifer, L., & Short, J. L. (2021). Teaching chemistry down under in an 'upside down' world: Lessons learned and stakeholder perspectives. In *Advances in online chemistry education*, 1389:105–22. ACS Symposium Series 1389. American Chemical Society. <https://doi.org/10.1021/bk-2021-1389.ch008>.
- Zeng, M., & Bridges, S. (2021). *Investigating university student choice of place and space in online learning during COVID-19—A survey-based study*. AARE2021 Conference (online)

Chapter 14

Modelling the Way Teachers Can Support the Retention and Success of Online Students



David Kember and David Hicks 

Abstract Retention and success in online learning has been handicapped by the absence of on-campus student–student or teacher–student contacts, which are the established mechanisms for promoting social and academic integration. This chapter proposes a model with which online teachers can promote the development of virtual learning communities, characterised by social and academic integration elements. The model proposes that a supportive online environment would be promoted if there were four elements of high quality online pedagogy present: bite-sized videos of interest and relevance; learning materials that are well organised and provide a clear learning roadmap; discussion forums that are set up and moderated so as to result in lively student–student and student–teacher interaction; and; online teachers being approachable and responsive to communication with individual students through email, phone and online communication platforms. The model proposes a causal link between the online supporting environment and the formation of virtual learning communities, with elements of both social and academic integration. The model was tested with structural equation modelling (SEM), which showed a very good fit to the data. Data for testing the SEM model were collected with a questionnaire with measures for the four pedagogical elements of the model and the formation of learning communities. The elements of the model were then briefly illustrated and substantiated with data from interviews with students. This research is of significance as it establishes a mechanism by which online teachers can promote virtual learning communities, leading to social and academic integration, without the need for direct on-campus contact.

D. Kember
Gravelly Beach, Australia

D. Hicks (✉)
School of Education, University of Tasmania, Launceston, TAS, Australia
e-mail: David.Hicks@utas.edu.au

14.1 Introduction

Dual-mode universities, which offer both on-campus and online courses, commonly appear to have maintained student support systems, primarily through centralised support offices, modelled on those operated by on-campus universities (see Chaps. 8 and 11). However, Chaps. 11 and 12 have shown that the central support systems of the contemporary university have not adapted to suit the needs of online students. This finding is strongly supported by research at other dual mode universities (Brindley, 2014; Cain et al., 2007; Dare et al., 2005; Owens et al., 2009 and Chaps. 8 and 11). Instead, Chaps. 12, 14 and 16 show that online students rely significantly more heavily on support from their teachers than do on-campus students, which again is a finding supported by the literature (Forrester et al., 2005; Lentell, 2003; Mason, 2003; Owens et al., 2009).

The study reported in this chapter aimed to model the ways in which online teachers can provide support for the retention and success of online students. The quantitative part of the study used structural equation modelling (SEM) to test a model which hypothesised that the online learning support consists of multiple facets: high quality bite-sized videos and lectures; content that is well organised and presented in manageable chunks; discussion forums that prompt lively student–student and student–teacher exchanges; and, teachers who are perceived by students to be approachable and responsive, resulting in lively student teacher exchanges through a variety of media. It was hypothesised that these elements of online teaching would form a supportive online environment which would promote the formation of virtual learning communities. The inclusion of learning communities in the model is based on Tinto’s model of attrition (Engstrom & Tinto, 2008; Tinto, 1975, 1987, 1993, 2012, 2015) which posits that retention is promoted through social and academic integration. This study proposes that virtual learning communities are the online manifestation of social and academic integration. The hypothesised model is shown in Fig. 14.1.

Data for the SEM testing came from a questionnaire administered to online students at a dual-mode regional university, which has adopted the contemporary model of admission and course delivery (see Chaps. 4 and 10). As elaborated in the method and results sections, the SEM testing showed a good fit to the data, which established the model as a good explanation of how online teachers can provide support to their online students.

The good fit of the model justified proceeding to the qualitative part of the study which aimed to illustrate and substantiate the facets of the model with qualitative data (see Chaps. 15 and 16). The qualitative data came from interviews with 41 students enrolled in online and blended learning subjects taught by award-winning teachers at the regional Australian university.

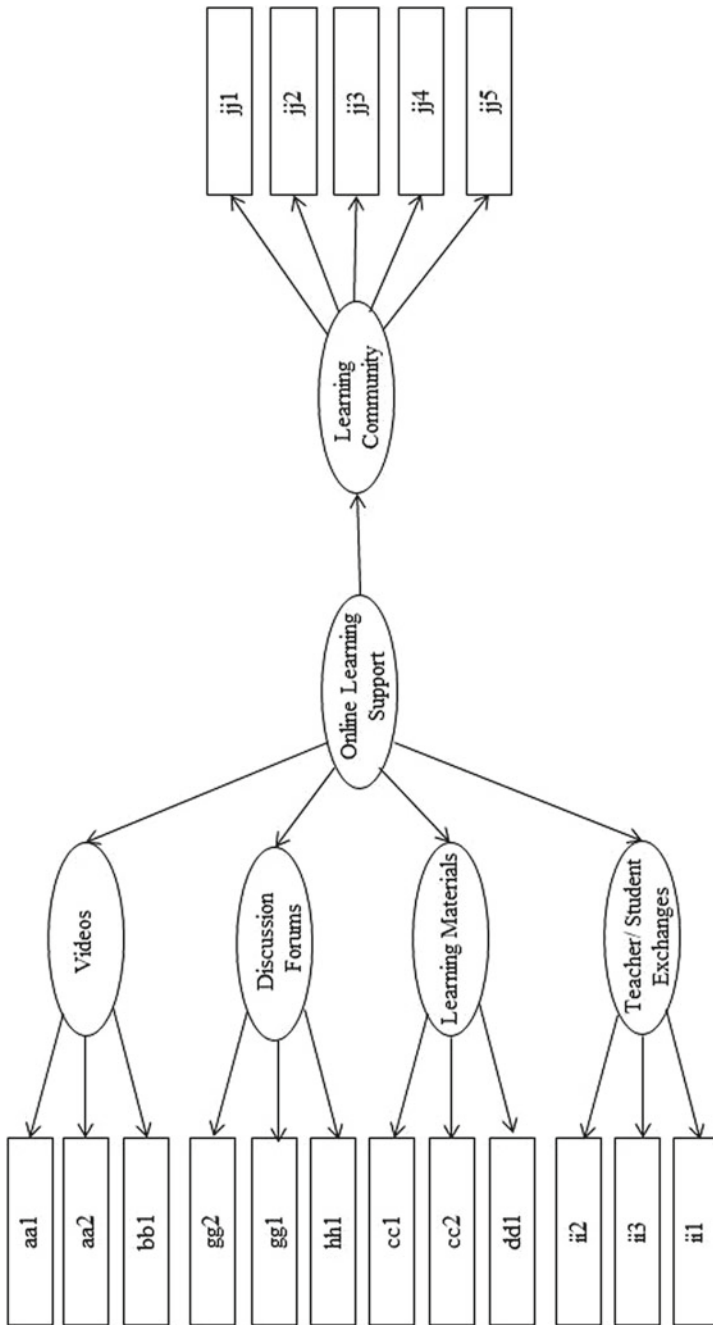


Fig. 14.1 Hypothesised model of how online teaching can support retention and success

14.2 Aims

This research aimed to investigate how online teachers can provide support for the retention and success of their online students through the following steps:

- Develop a questionnaire that could be employed to measure the various qualities of the online learning environment and perceptions of whether or not a learning community was present.
- Test a hypothesised model (shown in Fig. 14.1), which proposes that multiple facets of online teaching provide a supportive environment that promotes the formation of virtual learning communities; and
- Draw on the questionnaire items and qualitative data from online and blended learning students to briefly illustrate the four pedagogical elements of the model.

14.3 Method

The hypothesised model (Fig. 14.1) was informed by the qualitative data (see Chaps. 1, 15 and 16). To test the model it was first necessary to develop and test the questionnaire to gather data suitable for the testing of the model with SEM. The interview data also informed the writing of items for the questionnaire.

The questionnaire went through a number of stages of testing and development, which will be reported elsewhere. The final version of the questionnaire had three items for each of the four latent variables for the four aspects of online pedagogy which together contribute to online learning support. There were five items to provide measures for the learning community latent variable. The final version of the questionnaire is shown in Table 14.1.

The questionnaire was administered to a sample of undergraduate students enrolled in online or blended learning subjects at the university with the contemporary model (see Chaps. 4 and 10). To facilitate the collection of enough data to satisfy sample size requirements for SEM, students in Arts, Education and Health sciences were targeted as these disciplines contained the most substantial numbers of students studying online. The questionnaire was administered by sending out emails via the learning management system. Usable returns were received from 201 students, which was a large enough sample to justify estimating the model (MacCallum et al., 1996).

The key criteria for establishing the credibility of a questionnaire are reliability and validity (Kember & Ginns, 2012). For the Online Learner Support questionnaire, the reliability of the four scales designed to measure the various qualities of the learning environment and the scale for assessing whether students perceived they were part of a learning community was established by calculating Cronbach's Alpha and Composite Construct Reliability (CCR) for each scale. Content and construct validity was established through a combination of basing the items, scales and underlying constructs on extensive qualitative data and the testing of the underlying conceptual model with

Table 14.1 The final version of the Online Learner Support questionnaire

Scale	Data label	Item
Videos	aa1	Lectures and videos are short and ‘bite-sized’
	aa2	Lectures and videos are in manageable chunks which are convenient to study
	bb1	The content and learning materials are interesting
Learning Materials	cc1	Content is organised into manageable chunks in a logical order
	cc2	There is a clear pathway through the content
	dd1	The content, learning materials, readings and activities are arranged in a logical sequence
Discussion Forums	ff2	Discussion forums lead to exchanges between students
	gg1	The topics of discussion forums motivate students to contribute posts
	hh1	The teacher’s posts on discussion forums motivate students to post
Teacher–Student Exchange	ii2	The teacher is approachable
	ii3	The teacher responds promptly to emails and discussion board posts
	ii4	The teacher uses a range of media to communicate with students
Learning Community	jj1	In this unit I feel like we are part of a learning community
	jj2	Teachers and students have formed a supportive learning community
	jj3	Teachers and students are integrated into a social and supportive group
	jj4	We receive academic support which helps us complete the unit
	jj5	We are able to cope with online study because of the quality of the teaching and learning experience

SEM to assess model fit alongside convergent and discriminant validity of each of the scales; an approach to confirming validity established in the literature (Kember & Ginns, 2012; Kember & Leung, 2008). All quantitative analysis was performed with Stata (StataCorp, 2017) using maximum likelihood estimation and robust standard errors to adjust for non-multivariate normality (Chou et al., 1991).

14.4 Results

14.4.1 Reliability and Validity of the Scales

Each of the scales comfortably exceed commonly accepted metrics in relation to the methods employed to assess reliability and validity of the scales. Firstly, as shown in Table 14.2, in relation to reliability, the values for each of the scales exceeded the cut off points for Chronbach’s alpha (0.7) and Composite Construct Reliability (0.6).

In relation to validity, as shown in Table 14.3, the Average Variance Extracted for each of the scales exceeded both the traditionally accepted cut-off point (0.5) and the squared correlation coefficients between scales. Taken together, this suggests that the scales show good convergent and discriminant validity.

Table 14.2 Chronbach’s Alpha and Composite Construct Reliability values for each of the scales

Scale	Chronbach’s Alpha	CCR
Videos	0.80	0.83
Learning Materials	0.88	0.87
Discussion Forums	0.88	0.88
Teacher–Student Exchange	0.85	0.86
Learning Community	0.95	0.94

Table 14.3 Average variance extracted and squared correlation coefficient values for each of the scales

	Videos	Learning materials	Discussion forums	Teacher–student exchange	Learning community
Videos	0.630				
Learning Materials	0.578	0.689			
Discussion Forums	0.462	0.518	0.714		
Teacher–Student Exchange	0.449	0.504	0.548	0.673	
Learning Community	0.662	0.543	0.689	0.540	0.775

Note Diagonal Values (in bold) are the AVE values for each of the scales, off diagonal values (regular text) are the squared correlation coefficients between scales

14.4.2 *The Model*

The fit indices resulting from the final model were as follows: CFI = 0.940, TLI = 0.949, RMSEA = 0.070 ($p_{close} < 0.001$) and SRMR = 0.046. Comparison with the accepted threshold values indicates that the model is a good fit to the data. The final standardised version of the model is shown in Fig. 14.2.

The good fit of the model to the questionnaire data provides support for the underlying hypotheses that the teacher can provide support to online students to promote the formation of learning communities. It is, therefore, possible to form virtual online communities.

The model shows that the support derives from high quality in four pedagogical elements: the learning materials on the learning management system; bite-size videos; teacher–student and student–student exchanges through discussion forums; and, the approachability and responsiveness of the online teachers towards teacher–student exchanges. These four pedagogical elements will be explained in detail in our examination of the qualitative evidence for each element.

The magnitude of the standardised coefficient for the path between the Online Learning Support latent variable and the four pedagogical elements range between 0.84 and 0.86, which are substantial coefficients. The almost identical sizes of the coefficients indicates that the four pedagogical elements are equally important. For there to be fully effective online support, all four need to be present and of high quality. Conversely, if any of the elements are not provided, or are of poor quality, the online support will be less effective.

The Online Learning Support latent variable, with its four associated pedagogical element latent variables, has a very high standardised coefficient, to the Learning Communities latent variable, confirming that online teacher support does provide a very effective mechanism to promote the development of virtual learning communities. The Learning Communities latent variable has five indicators, each of which has a substantial loading on the latent variable. Three of the indicators refer to the formation of communities, which equates to social integration in the Tinto model (1975, 1987, 1993, 2012, 2015; Engstrom & Tinto, 2008). The remaining two indicators refer to academic support from the teacher, which equates to academic integration. The Learning Communities latent variable, therefore, comprises the two integrative mechanisms of the Tinto model, which is a model of retention and success. In the Tinto model of attrition from on-campus learning, social and academic integration are visualized as discrete. Chapters 9 and 20, though, argue that, for online learning, social and academic integration are inter-twined. It is, therefore, appropriate to include indicators for academic and social integration as indicators for the Learning Community latent variable. This study has, therefore, shown how support from online teachers can promote the development of support to virtual online learning communities. This is a significant advance in research into the retention and success of online learners, as previous ways of promoting social and academic integration have operated through direct face-to-face contact (Ahn & Davis, 2020; James et al., 2010; Kelly & Mulrooney, 2019; Kuh et al., 2008; Trowler, 2010).

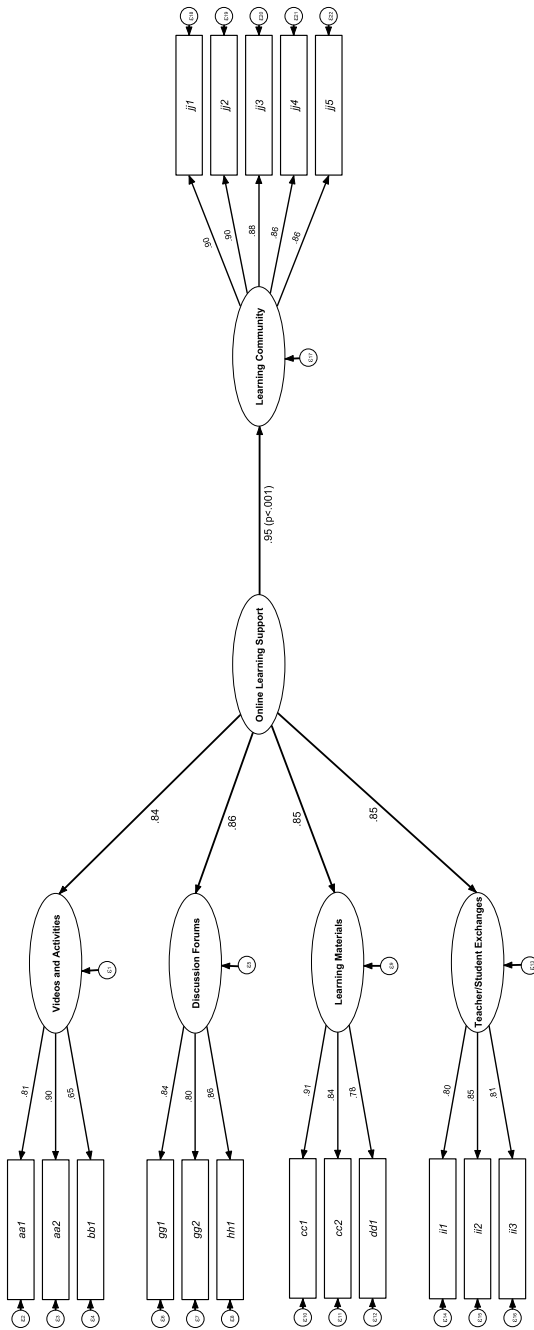


Fig. 14.2 The final standardized SEM model

14.5 Interpretation of the Model

The four main sections below examine in turn the four pedagogical elements that contribute to online learning support, which correspond to the four latent variables loading on the online learning support latent variable. Each pedagogical element is examined using the same strategies, which involve the analysis of both quantitative and qualitative data. The aim in each case, is to provide a full and detailed characterisation of the pedagogical elements to both contribute a theoretical formulation of the facet and a practical guide to online teachers, so that they are able to provide support to their online students.

The first part of the examination will be the quantitative one. It will look at the three items contributing to the facet, as these are what define and characterise the pedagogical latent variable. The quantitative examination will also consider the loading of the indicator or item on the latent variable, as this gives an indication of the relative degree of contribution of each indicator to the latent variable.

The second more substantial part of the examination will draw on the qualitative data. By utilising detailed coding, the interviews with the online students in subjects taught by award-winning teachers were searched for comments related to each of the four pedagogical facets and their three contributing indicators. The aim of this exercise was to build a characterisation of each facet, richly illustrated and substantiated with typical interview quotations. The illustration with qualitative interview data in this Chapter is relatively brief. Chapters 15 and 16 provide very detailed characterisation of the four elements of pedagogical support in online and blended learning.

14.5.1 Videos

The three items that measure the indicators for the Videos latent variable are listed below. The loading of the indicator, which gives a measure of the relative contribution of the indicator to the latent variable, is shown in brackets after the item.

aa1 Lectures and videos are short and 'bite-sized' (loading 0.81).

aa2 Lectures and videos are in manageable chunks which are convenient to study (loading 0.90).

bb1 The content and learning materials are interesting (loading 0.65).

The items for the Videos latent variable encompass two constructs that are distinct, but related. The first two items refer to videos and lectures being in manageable bite-size chunks. The third item refers to learning materials being interesting. This item has the lowest loading of any indicator on its latent variable, which is presumably because of the somewhat different nature of the item.

14.5.1.1 Bite-Size Videos and Lectures

For students to be motivated to engage with videos, lectures and learning materials, they needed to be presented in manageable bite-size chunks. Most of the online students work from home. Many were part-time students and had competing commitments relating to family and employment. Accessing the learning materials in manageable chunks helped the students to juggle these competing commitments.

The Videos latent variable is of significance in that most teachers turn to teaching online following, often lengthy, experience of face-to-face teaching. The one hour or 50-min lecture is an entrenched feature of on-campus teaching. Since, initially at least, most teachers tend to model their online teaching on their on-campus teaching, there is a tendency for lengthy videos to be modelled on full-length lectures. This strategy can be reinforced if colleagues also make lecture-style videos. However, videos can fulfil a variety of functions and not just resemble the content delivery function of lectures.

For this topic, for this week just going, [Lecturer] included one 23-minute video, and another one about 15 minutes. Yes, and [Second lecturer] has done heaps and heaps and heaps. So those are really amazing. There's so much variety. You don't get bored just sitting there reading one type of material, or just having one interface style.

Weekly overview videos can be employed to provide a guide to the content and activities for the week and help students to navigate through the material.

Each week, the two lecturers did a video of them talking and explaining the content, and I really liked that. I thought that was really, really good, especially for the online people. I mean, to just see them talking, and you felt like you were face to face talking with them.

The quotation also illustrates that videos can play a key role in projecting an online teacher presence, which is important to establishing a virtual relationship with the students.

Another type of video the online students valued were those relating to assessment. These provided guidance to tackling assignments, which are the key element of online study, as students are assessment driven (Biggs & Tang, 2011).

Assignment lectures, which were really, really handy, because she went through it a little more and it alleviated some of the questions that we might have, and it might also bring up a few more that we had, ones that we probably wouldn't have considered beforehand.

14.5.1.2 Interest

The above quotations, used to illuminate the value of using bite-size videos, indicate that, as well as being bite-size, to be effective the videos need to interest the students. Other qualities cited in the interviews were variety and relevance. The item referring to content being interesting, therefore, more closely relates to the other two items than it might appear at first sight. The Cronbach alpha value of 0.80 indicates a coherent scale. Interesting videos and learning materials are important in providing motivation, particularly for part-time online students who are time poor, because of

competing commitments. The following quotation refers to a video sourced online which the students found interesting.

Right towards the end she put on a really inspirational man and he uses Shakespeare and rock and roll with his students.

Showing relevance is an important way of establishing interest. Relevance can be established as: relevance to everyday applications; relevance to local issues; and, relevance to current topics (Kember et al., 2008).

Make it applicable and real I suppose. Rather than, because when I was at school, you know, I mean when we were at school, we, you know, we were taught the concept on its own. So, in a fragmented way. It wasn't connected to anything else that you were doing.

Relevance is particularly important in professional courses, which are taken by a substantial proportion of online learners, as the students expect that what is taught will be relevant to their future careers.

The units were relevant to me and what I'm actually doing at the moment. I actually work with disengaged youth, so everything I have been learning has been really relevant. And honestly I've taken something from every single unit. I haven't found any of them to be useless.

14.5.2 Learning Materials

The three items which are indicators for the learning materials latent variable are listed below, with the loading of the indicator in brackets.

cc1 Content is organised into manageable chunks in a logical order (loading 0.91).

cc2 There is a clear pathway through the content (loading 0.84).

dd1 The content, learning materials, readings and activities are arranged in a logical sequence (loading 0.78).

Organisation is the key factor linking the scale. The interviewees wanted the learning materials to be presented in manageable chunks, like the videos. They wanted a clear explicit pathway or sequence to follow in tackling the content.

So it was very much a step by step process and it was very hard to actually get lost. You really just worked your way through each week's content step by step and all the links were there available. ... So it was very easy to navigate.

The need for organisation and a clear pathway applied to all components of the learning materials, including readings, videos, lectures and activities.

And then she'd have your reading, and then she'd have your activity as well for your online thing. So I found that the way she set things up, it was really quite clear, and you could break it up and do it in parts. So for me, being busy, that certainly helped.

14.5.3 Discussion Forums

The three items for the scale, with loadings in parentheses, are listed below.

- ff2 Discussion forums lead to exchanges between students (loading 0.80)
- gg1 The topics of discussion forums motivate students to contribute posts (loading 0.84)
- hh1 The teacher's posts on discussion forums motivate students to post (loading 0.86)

The items consider three aspects of discussion forums. The loadings are substantial and close in value, so each of the three aspects contributes strongly.

14.5.3.1 Prompting Student Exchanges

Discussion forums can function in a similar manner to virtual tutorials and seminars in online learning. The forums provide an opportunity for students to interact with each other.

It was really good to bounce ideas off other students and just get a bit of an idea if I was on the right track with reading other people's comments and what they had written on the discussion board.

Interacting together in a virtual environment can be a step towards building a sense of community. While study might physically take place alone in the home, interaction through discussion forums can help students to realise that they are not alone in this pursuit, thereby reducing the loneliness of the online learner.

And then you could also communicate with the other students and see what questions did other people have that were similar to mine or I'm not in the same – like, I'm in the same boat, so it alleviated some of my stress “Okay, I'm not the only one.”

14.5.3.2 Topics Which Motivate Students to Post

For discussion forums to function as a step towards building a sense of a virtual community, the teacher needed to play a role in facilitating the forum to become a venue through which student–student and student–teacher exchanges can be of sufficient magnitude and of suitable nature that a sense of community develops. There is extensive literature on student engagement with online activities (see Hew & Cheung, 2012, for a review), although the focus of this research appears to be on engagement as an end in itself, rather than on the role of interaction can play in developing a learning community.

There is evidence from the interviews to show that establishing a discussion forum, which led to lively community building interactions, related to two aspects of the two latent variables discussed previously. Firstly, the topic chosen for discussion needed to be of sufficient interest and relevance to meaningful learning that the students felt

it worthwhile to contribute. Secondly, the forum needed to be set up and moderated in an organised manner so that the posts built towards logical discussion threads.

[Lecturer] had set it up differently, so that you kept building on the thread. She sort of posed the questions to start with in our reading, around, you know, in our weekly activities. And then the first person started, and then we all replied to the same thread as in, the idea was that you finish your post, commenting on what the other people had posted, and then adding your bit to it, and posing another question.

14.5.3.3 Moderating Forums

The third facet of the Discussion Forum latent variable was the role of the teacher as a moderator of discussion forums. The teacher needed to be active in managing the forum and to do it in a way which prompted further posts.

The thing I appreciated about [Lecturer] was she was very active on the discussion board. Especially towards assignment time we had a few pieces of assessment that people had a lot of questions about. ... so that was really helpful because obviously they're in those last few, sort of, that last 24 hours before an assessment is due in, and something pops up in regards to the topic, you couldn't stop writing. And she was very fast with that.

14.5.4 Teacher–Student Exchanges

The three items corresponding to indicators for the Teacher–Student Exchanges latent variable are as follows.

- ii2 The teacher is approachable (loading 0.85).
- ii3 The teacher responds promptly to emails and discussion board posts (loading 0.81).
- ii4 The teacher uses a range of media to communicate with students (loading 0.80).

The three items encompass: the disposition of the teacher; responsiveness to discussion forum posts; and, emails and communication with the students. The magnitude and closeness of the loadings and the magnitude of Cronbach alpha (0.85) for the scale indicates that the three aspects are closely related.

14.5.4.1 Responsiveness and Approachability

For a teacher to help the formation of a learning community, the students needed to feel that they could approach the teacher. Teachers had to be available and respond quickly.

So, she was really available. The moment I said “Look, you know. I just would like to...”. Actually, she offered to talk through my assignment and what I had done wrong and where the failure had come from and she helped me understand what I needed to do. And, so I found her quite accessible, which I think yes, was her strength.

If students started to perceive a teacher was approachable and responsive, ties strengthened and students felt more confident of raising issues with the teacher. If students felt the teacher was approachable, it could lead to a pastoral role, which would clearly contribute to community building.

When I started it was nerve-racking. Like I was in tears and I was like, ‘Oh my God. I can’t do this, I need to pause, I don’t want to continue.’ ...The lecturer that I did have, I would ... I think I sent her, like, 100 emails or something saying that ‘I don’t think I can do this’, and she actually called me and she said, ‘No, you can.’

14.5.4.2 Prompt Responses

To be useful, responses needed to be prompt. Lengthy delays in responses to questions would hinder any sense of affinity developing.

And answering just, yeah, if I had any queries or questions or anything like that. [Lecturer] was always really prompt on replying to the messages. Which sometimes if you’re studying and, you know, you sort of can’t go any further until your question is answered.

14.5.4.3 Communication Through a Variety of Media

For teachers to be seen as approachable and responsive they needed to be willing to communicate with students in a variety of ways and through a range of media, such as email, phone and online communication platforms. The quotation below is from a teacher who taught a subject offered through online and blended learning in which the content and learning materials were online. The teacher and tutors used individual communications to provide support to students in understanding the content.

Of interest to the teachers of this unit, was the ability for the online content and the discussion boards to support student learning of concepts that are often perceived as difficult, while providing personalized academic support to individual students. In addition, the discussion boards and other forms of online communication such as email and Skype provided a conduit between the core content online and the applied learning delivered in the face-to-face activities on campus. These forms of communication enabled students to feel well supported and less isolated as they grasp difficult concepts in anatomy and physiology.

14.6 Discussion

This chapter has presented a SEM model which shows how teachers can support the retention and success of online students. The model shows that four pedagogical elements need to be functioning and of high quality. The four pedagogical elements are: bite-size videos that the students find interesting; learning materials that are well organised and navigable; discussion forums that prompt teacher–student and student–student exchanges; and, online teachers who are approachable and responsive, and

who deal promptly with individual student queries through emails, phone and online media platforms.

The model also suggests a way forward for teaching quality enhancement and improving retention and success. If any of the four pedagogical elements are not functioning, or are of poor quality, the students will not perceive that they are being provided with support and the further the deviation from the ideal, the more the likelihood of student attrition. Quality enhancement initiatives which aim to improve the quality of the four pedagogical elements across all courses, should improve rates of retention and success. Chapter 18 discusses how the Online Learner Support questionnaire can be used as a diagnostic instrument to indicate pedagogical elements which would benefit from improvement. The chapter also discusses how the administration of the questionnaire could be incorporated into a teaching quality enhancement initiative.

The four pedagogical elements of the model have been briefly illuminated with data from interviews with online students taking subjects taught by award-winning online teachers in this Chapter. The following two chapters (Chaps. 15 and 16) will provide detailed illustrations of the implementation of the model for online and blended learning. The complementarity of the analysis of the interview data and the ability to illustrate the elements of the SEM model provides qualitative substantiation to the quantitative model. The rich detail in the interpretation of the data and the profuse illustration with typical quotation also provides detailed modelling for teachers to enable them to teach in ways that support the retention and success of their online students.

In the SEM model, the four pedagogical elements provide a supporting online environment. The supportive environment facilitates the development of virtual online learning communities. The measures of the formation of learning communities contain elements of social and academic integration, which are the principal components of Tinto's (1975, 1987, 1993) model of attrition, which is by far the most highly cited and influential model of retention and success. The outcome latent variable of the SEM model, therefore, is constituted by the two mechanisms shown to promote retention and success. While the modelling has yet to incorporate actual outcome measures of retention and success, it is highly credible that there will be significant relationships between the formation of online learning communities and measures of retention. This should be a fruitful avenue for future research.

The most significant feature of this research is that it has produced detailed characterisations of the way in which support for retention and success can be provided online through pedagogical elements of online teaching. This supporting environment provides a mechanism for promoting the formation of virtual learning communities. The important distinguishing feature of the model is that the support is provided through online interactions and the learning communities form in a virtual environment. This study has, therefore, shown how Tinto's model, and the forms of support developed from it, can be translated from on-campus teaching to online learning. It has demonstrated that supportive learning communities can form in a virtual online environment, as well as through direct student–student and teacher–student interaction in an on-campus setting.

14.7 Conclusion

There are well established models (Tinto, 1975, 1987, 1993) of how support can be provided to promote the retention and success of on-campus students. The models argue for the formation of learning communities to promote social and academic integration. On-campus activities, such as orientations, are arranged to promote student–student and student–teacher interactions as a spur to community building (Ahn & Davis, 2020; James et al., 2010; Kelly & Mulrooney, 2019; Kuh et al., 2008; Trowler, 2010).

Online learners, however, do not come onto campus, so these activities do not provide a mechanism for integrating them into communities. The key contribution of this chapter is to provide a model, substantiated by both SEM modelling and qualitative interview data, which shows how the formation of learning communities, with elements of both social and academic integration, can be promoted in a virtual online environment. The mechanism for the promotion of these virtual learning communities is through four elements of high-quality online pedagogy: interesting bite-size videos; well-organised learning materials; discussion forums with active contributions from students and teachers; and, teacher–student exchanges through emails, phone and online communication platforms. Detailed illustration of the way in which the four pedagogical elements have been put into practice in online and blended learning, by award-winning teachers, is provided in Chaps. 15 and 16.

Acknowledgements Copyright in the Online Learning Support questionnaire is owned by David Hicks and David Kember (© David Hicks and David Kember, 2022). Readers are encouraged to make use of the questionnaire for purposes of research and the evaluation of teaching and learning, provided that due acknowledgement is made and this chapter in the book is cited in any resulting publications.

References



- Ahn, M. Y., & Davis, H. H. (2020). Four domains of students' sense of belonging to university. *Studies in Higher Education, 45*(3), 622–634.
- Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university: What the student does*. Society for Research into Higher Education and Open University Press.
- Brindley, J. E. (2014). Learner support in online distance education: Essential and evolving. In O. Zawacki-Richter & T. Anderson (Eds.), *Online distance education: Towards a research agenda* (pp. 287–310). Athabasca University Press.
- Cain, D. L., Marrara, C., Pitre, P. E., & Armour, S. (2007). Support services that matter: An exploration of the experiences and needs of graduate students in a distance learning environment. *International Journal of E-Learning & Distance Education/Revue internationale du e-learning et la formation à distance, 18*(1), 42–56.
- Chou, C., Bentler, P., & Satorra, A. (1991). Scaled test statistics and robust standard errors for non-normal data in covariance structure analysis: A monte carlo study. *British Journal of Mathematical and Statistical Psychology, 44*(2), 347–357.

- Dare, L. A., Zapata, L. P., & Thomas, A. G. (2005). Assessing the needs of distance learners: A student affairs perspective. *New Directions for Student Services*, 2005(112), 39–54.
- Engstrom, C., & Tinto, V. (2008). Access without support is not opportunity. *Change: The Magazine of Higher Learning*, 40(1), 46–50. <https://doi.org/10.3200/CHNG.40.1.46-50>
- Forrester, G., Motteram, G., Parkinson, G., & Slaouti, D. (2005). Going the distance: Students' experiences of induction to distance learning in higher education. *Journal of Further and Higher Education*, 29(4), 293–306.
- Hew, K. F., & Cheung, W. S. (2012). *Student participation in on-line discussions*. Springer.
- James, R., Krause, K.-L., & Jennings, C. (2010). *The first year experience in Australian universities: Findings from 1994 to 2009*. Centre for Studies in Higher Education, University of Melbourne.
- Kelly, A. F., & Mulrooney, H. M. (2019). Student perceptions of belonging at university: A qualitative perspective. *New Directions in the Teaching of Physical Sciences*, (14).
- Kember, D., & Ginns, P. (2012). *Evaluating teaching and learning: A practical handbook for colleges, universities and the scholarship of teaching*. Routledge.
- Kember, D., Ho, A., & Hong, C. (2008). The importance of relevance in motivating student learning. *Active Learning in Higher Education*, 9(3), 249–263.
- Kember, D., & Leung, D. Y. P. (2008). Establishing the validity and reliability of course evaluation questionnaires. *Assessment and Evaluation in Higher Education*, 33(4), 341–353.
- Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *Journal of Higher Education*, 79(5), 540–563.
- Lentell, H. (2003). The importance of the tutor in open and distance learning. In R. Mills & A. Tait (Eds.), *Rethinking learner support in distance education: Change and continuity in an international context* (pp. 64–76). Routledge.
- Mason, R. (2003). Online and supporting students: New possibilities. In R. Mills & A. Tait (Eds.), *Rethinking learner support in distance education: Change and continuity in an international context* (pp. 90–101). Routledge.
- MacCallum, R., Browne, M., & Sugawara, H. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods*, 1(2), 130–149.
- Owens, J., Hardcastle, L., & Richardson, B. (2009). Learning from a distance: The experience of remote students. *Journal of Distance Education*, 23(3), 53–74.
- StataCorp. (2017). *Stata statistical software: Release 15*. StataCorpLLC
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89–125. <https://doi.org/10.3102/00346543045001089>
- Tinto, V. (1987). *Leaving college*. University of Chicago Press.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). University of Chicago Press.
- Tinto, V. (2012). Enhancing student success: Taking the classroom success seriously. *The International Journal of the First Year in Higher Education*, 3(1), 1–8.
- Tinto, V. (2015). Through the eyes of students. *Journal of College Student Retention: Research, Theory & Practice*. <https://doi.org/10.1177/1521025115621917>
- Trowler, V. (2010). *Student engagement literature review* (HEA Report 11). Retrieved from The Higher Education academy website: https://www.heacademy.ac.uk/system/files/StudentEngagementLiteratureReview_1.pdf

Chapter 15

Detailed Characterisation of Online Teaching Which Optimises Student Support



Tracey Muir, Tracy Douglas , Isabel Wang, Stephanie Richey, Si Fan , Allison Trimble, James Chase, and Casey Mainsbridge

Abstract This chapter illustrates and substantiates the four pedagogical elements of the model developed and tested in the previous chapter. The illustrations came from five different online and blended subjects and degrees taught or led by the authors. The facets of the pedagogical elements are illustrated by interview quotations from students who studied or were enrolled in the different subjects and degrees, and student discussion board posts. The linking explanatory text provides a detailed description and explanation of how each pedagogical element was enacted in practice, so that other teachers will be able to use the chapter to provide a model for their own teaching. The detailed qualitative illustrations provide substantiation for the

T. Muir (✉) · S. Fan
Faculty of Education, University of Tasmania, Launceston, TAS, Australia
e-mail: tracey.muir@utas.edu.au

S. Fan
e-mail: si.fan@utas.edu.au

T. Douglas
School of Health Sciences, University of Tasmania, Launceston, TAS, Australia
e-mail: T.Douglas@utas.edu.au

I. Wang · J. Chase
School of Humanities, College of Arts, Law and Education, University of Tasmania, Launceston, TAS, Australia
e-mail: yanjun.wang@utas.edu.au

J. Chase
e-mail: james.chase@utas.edu.au

S. Richey
Faculty of Education, University of Tasmania, Burnie, TAS, Australia
e-mail: stephanie.richey@utas.edu.au

A. Trimble
Launceston, Australia
e-mail: allison.trimble@utas.edu.au

C. Mainsbridge
School of Education, Faculty of Humanities, Arts, Social Sciences, and Education, University of New England, Armidale, NSW, Australia
e-mail: cmainsbr@une.edu.au

quantitative SEM model developed and tested in the previous chapter. As the majority of data comes from student feedback, there is also substantiation of the concept that online teachers can support the retention and success of their students within a virtual online environment.

15.1 Context

All degrees that are offered at the University of Tasmania (UTAS) contain some online aspects. Most degrees offer fully online or blended modes of study. As discussed in detail in Chap. 4, UTAS has adopted a contemporary model of admission and course delivery. At the centre of the University's online learning environment is a Learning Management System (LMS), an online platform where students access content for their subjects as part of their degree work. The LMS also contains a range of online tools to deliver and teach this content, including discussion board forums, quizzes, assessment items and submission systems, interactive activities, and video files. In order to promote excellent online teaching, the University has a well-established Digital Futures team that provides guidelines for online teaching, including established mechanisms for QA in curriculum development and delivery. These standards are applicable to all degrees and contain *minimum*, *good*, and *excellent* levels in relation to: online environment; learning tasks and activities; support for learning; connecting, and communicating; and accessibility, equity, and diversity. For example, a 'good' indicator of the third standard, 'Support for learning', requires the organization of high-quality online materials to allow ease of navigation and provide a consistent experience within the subject. All the subjects described in this chapter were designed and delivered to meet the high standards developed by the Digital Futures team.

15.1.1 Overview of the Focus Subjects

The qualitative data presented in this chapter was collected from students enrolled in 5 different subjects. Detailed information in relation to the subjects and their selection based on the authors' association is set out in Chap. 1. The five subjects which provide the focus of the discussion in this chapter are listed in Table 15.1.

Teaching Primary Mathematics 1 (TMP1) is the first of two mathematics pedagogy subjects undertaken by Master of Teaching students at the University of Tasmania. The subject is taught in a blended delivery mode, which means students can study either on-campus, or fully online. All learning materials are provided to both cohorts of students through the LMS. Learning content is posted weekly and typically consists of a narrated PowerPoint presentation or mini-lecture, required readings, and activities. All students are expected to access and progress through the learning content at their own pace and contribute to weekly discussion boards, where interaction with

Table 15.1 Focus subjects in relation to which data is discussed in this chapter

Subject name	School	Abbreviation
Teaching Primary Mathematics 1	Education	TPM1
Introduction to Chinese 1A	Humanities	IC1A
Academic Literacies	Education	AL
Planning for Positive Behaviour	Education	PPB
Human Anatomy and Physiology 1A	Health Sciences	HAPIA

the lecturer and other students occurs. The lecturer is experienced in online teaching and has taught this subject for 6 years. Students undertaking this subject are typically not confident with their own mathematical knowledge and experience, (e.g., Muir et al., 2020) making it particularly important for the lecturer to establish positive relationships with the students, as well as enabling them to make connections with their learning and ultimate practice in schools. The data included in this chapter concerning this subject were collected in the first semester of 2019, when interviews were conducted with nine students.

Introduction to Chinese 1A (IC1A) is the first of two introductory Chinese language subjects undertaken by students with little or no prior knowledge of Chinese at the University of Tasmania. This subject is delivered in a blended mode; that is, with some students attending face-to-face classes on-campus and others attending fully online without connection to on-campus activities. All students have access to learning materials through the LMS and they are expected to make progress by engaging with weekly learning content at their own pace. The weekly learning content consists of a series of short lecture and tutorial videos accompanied by notes in PDF format, a wide range of interactive learning activities, selected digital learning tools focusing on practical use of the Chinese language, and discussion forums for students to share their learning experience. The lecturer is experienced in online language teaching and has taught beginning-level Chinese for over 10 years. Students undertaking this subject are absolute beginners who may not fully understand the demands of learning an Asian language like Chinese. Accordingly, it is important for the lecturer to create a supportive learning environment that aims to help mitigate challenges that impact students' progress. Such a learning environment also helps to foster collaborative teacher–student and student–student interaction, which may contribute to positive learning outcomes. The data included in this chapter for this subject were collected in the first semester of 2019, when interviews were conducted with three students.

Academic Literacies (AL) is a first year, first-semester subject for all students commencing their ITE (Initial Teacher Education) degree. Cohorts include the Bachelor of Education (Primary, Health and Physical Education, and Early Childhood specializations), the Associate Degree in Education Support, students in the Diploma

of University Studies (a pathway into the Bachelor) and those enrolled through Open Access University. The subject is offered face-to-face and online in Semester 1, and online only in Semester 2 (due to smaller mid-year degree enrolments). The weekly content is the same for all modes of study. Mini presentations and readings are presented as a 'Big Ideas' section for students to engage with first. Then they move through the content, which comprises material written in 'teacher voice' (i.e., in an instructive tone), links to more information within the subject LMS or on the web, interactive learning activities, and instructional videos (both external and created by the lecturer). The content is clearly set out in weekly themes of work, within larger themed Modules such as 'Academic Integrity' and 'Literacies in Action'. Checklists are used at the end of each Module to assist students to identify the essential activities that should be completed. Five 'assessment *as learning*' formal assessment quizzes throughout the subject are utilized to help students retain key information. The aim of the subject is to teach the required academic skills for successful tertiary study, through an Education lens. The activities focus on helping students develop these skills and often directly correlate with students working on their assessment tasks, making it a very practical subject about personal development. The lecturer has taught this subject for 4 years. The data included in this chapter for this subject were collected in the first semester of 2019, when interviews were conducted with nine students.

Planning for Positive Behaviour (PPB) is taught to a diverse cohort, including students from the specializations of: Early Childhood Education, Primary, Health and Physical Education, Maths and Science, Applied Learning, and the Education Support Associate Degree. This subject is delivered in a blended mode. Learning materials are provided to all students in the subject through the LMS. These include recorded lectures, scanned or links to readings, and supporting materials related to assessments. Students studying in the blended mode are placed into face-to-face tutorials that they attend weekly on campus. Students studying in the online mode are placed into online discussion groups in the LMS space, with weekly topics to guide their discussions. All students have access to a section of the LMS discussion board where they can ask questions in relation to assessments. This subject is the key subject dedicated to classroom management in their teacher education degrees. Students undertake this subject at the beginning of their second year of the degree, which means they are at a relatively early stage of their study. The focus of the subject and the activities required to achieve the learning outcomes present a good fit for the online delivery mode. The lecturer is experienced and has taught this subject for over 10 years. The data presented in this chapter for this subject were collected from interviews with eight students in Semester 1 of 2019.

Human Anatomy and Physiology 1A (HAP1A) is taught across multiple campuses to a diverse cohort. It is a core subject in seven health-based degrees and is available as an elective subject in other degrees. This subject is delivered in a blended mode using a flipped classroom. The flipped model of the subject is designed for students to engage with pre-class material, then undertake an active learning workshop where they apply content. Students then attend an on-campus practical/tutorial session to enhance student learning. Learning materials are provided to all students in the

subject through the LMS. These include pre-class materials (core content delivered in text, recordings, images, and interactive activities), active learning workshop slides, and guided notes for on-campus practical and tutorial activities. All students have access to specific LMS discussion boards where they can ask and discuss questions in relation to the subject in general, specific content, or assessments. This subject is the key foundation subject for students studying disciplines that require a knowledge of anatomy and physiology. Students undertake this core subject at the beginning of their first year of their degrees, which means they are at a relatively early stage of their study, and some students have not previously studied human biology. The focus of the subject and the activities required to achieve the learning outcomes support flexibility in learning as well as peer learning opportunities. The subject coordinators are experienced and have taught this material for over 20 years, and the team of expert lecturers who contribute to the subject also have many years of teaching experience. The data presented in this chapter for this subject were collected from interviews with four students in Semester 1 of 2019.

15.2 The Support of Online and Blended Learning Model

The diagram in Fig. 15.1 is drawn from the complete model presented in Chap. 14. It reflects the ways in which teachers can provide support to online and blended learners through four high-quality pedagogical elements: bite-sized videos of interest and relevance, learning materials which are well organized and provided a clear learning roadmap, discussion forums which are set up and moderated so as to result in lively student–student and student–teacher interaction, and online teachers being approachable and responsive to communication with individual students through email, phone, and online communication platforms. These elements, examined in detail below, promote the formation of virtual learning communities supporting online student social and academic integration.

15.3 Videos

As shown in the model, videos were used as a mechanism for online learning support. The use of multimedia, including videos, in online degrees has been shown to increase student engagement and learning (Colasante, 2022; Fyfield et al., 2022). Mini-videos, screen casting and video-based instructor introductions have pedagogical benefits and help to form relationships with instructors with whom students cannot meet in person. Videos have also been recommended as a medium for building social, cognitive, and teaching presence (Di Paulo et al., 2017). In addition, asynchronous videos serve to develop students' perceptions of immediacy and have the advantage of being able to be viewed a number of times. When recording mini-lectures, we recommend that

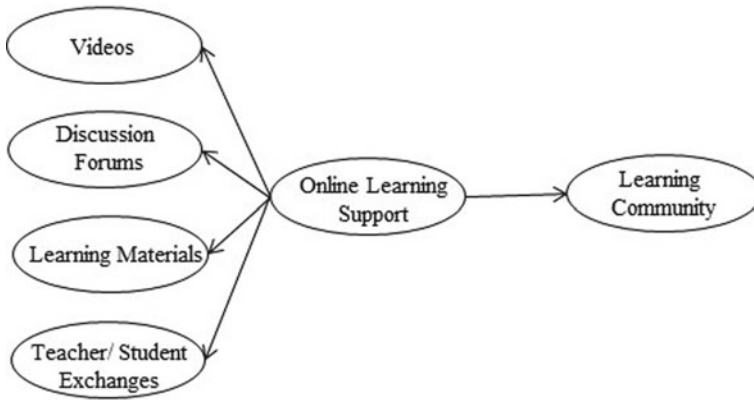


Fig. 15.1 Excerpt from Chap. 14 model showing teacher support for online students through four pedagogical elements

the videos should be limited to 15 min or less in length, with introductory, weekly and demonstration videos being 6 min or less.

The instructors of the subjects described in this chapter incorporated videos in five main ways:

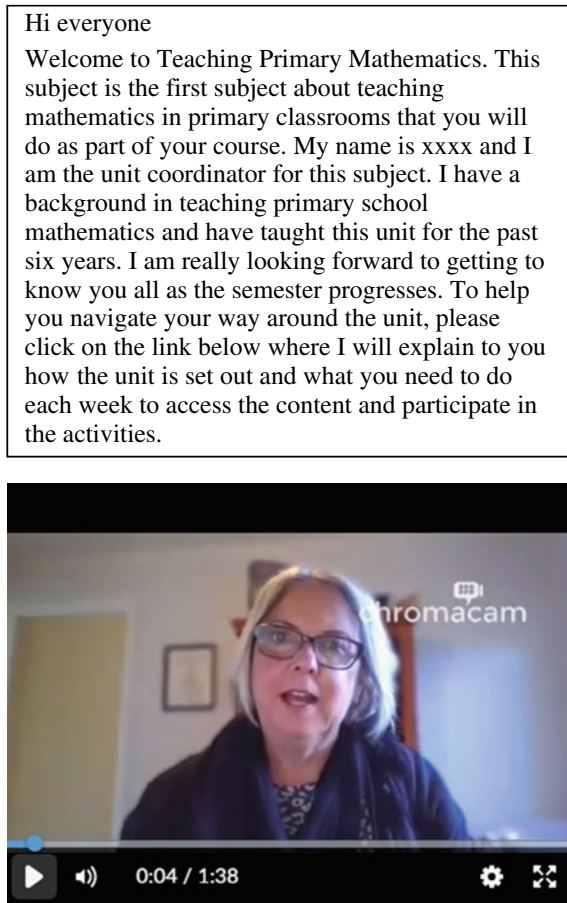
- Introduction/welcome to the subject videos
- Weekly overview videos
- Activity demonstration videos
- Assessment preparation videos
- Assessment feedback videos.

15.3.1 Introductory/Welcome Videos

The normal process of ‘getting to know the teacher’ early in the semester is not quite so easy in the online space. This is likely to be important for online students who may be isolated or uncomfortable with learning in the online space (Martin et al., 2020; Stone & Springer, 2019). Consequently, the goal of introductory/welcome videos is to highlight teacher presence in the online learning space and orient students to the subject they are studying. This helps students recognize that the teacher is there to support their learning and, more importantly, gives the students a sense that the teacher knows them and cares about their progress.

The introductory/welcome video is a one-off at the beginning of the semester and includes important aspects such as: how to navigate around the subject; what to expect each week; how to communicate with the lecturer; and what the assessment requirements are for the subject. When it has been used in an Initial Teacher Education (ITE) subject, an introductory video typically provides an overview of the position of the subject in the teacher training program and its importance for

Fig. 15.2 Example of TPM1 instructor welcome video/text



students on their way to become teachers. Figure 15.2 shows a screen shot from an introductory video conducted by the instructor in TPM1, along with the introductory script. All of the instructors of the subjects discussed in this chapter prepared their own introductory/welcome videos.

Students were positive about the benefits of the videos in helping to establish a relationship with their lecturers.

Her and [Tutor] did an actual video of themselves, so that made it feel like you were actually on the campus with them, that you're sitting there in a tutorial with them. Having a face to a name, and them working off each other and being really relaxed about it all, it just gives you that relaxed feeling. I truly believe if you are relaxed and excited about something, you'll try harder, as opposed to if you're scared and nervous and anxious. (Yolande—AL student)

Figure 15.3 shows a screen shot from the video referred to by Yolande, in which the subject coordinator and lead tutor conversed in the mini presentation at the start of each week's content.



Fig. 15.3 Screenshot of video at the start of AL weekly content

15.3.2 *Weekly Overview Videos*

In the AL subject, weekly overview videos were recorded as a ‘fireside chat’, where the subject coordinator and the lead tutor sat together and discussed the work coming up for that week (as seen in Fig. 15.4). The positive effect of this approach was clearly evident in student feedback. This social connection directly impacted students’ engagement with learning in the subject.

Each week, the two lecturers did a video of them talking and explaining the content, and I really liked that. I thought that was really, really good, especially for the online people. I mean, to just see them talking, and you felt like you were face-to-face talking with them. (Diane—AL student)

This style of video showed a positive rapport between the teaching staff, and dialogue was shared between the two as a way to maintain the viewer’s engagement. Videos with a sole teacher were also reported to be effective by students, who seemed to appreciate the verbal overview of the weekly content.

Each week the lecturer in the TPM1 subject prepared a short overview video which was well received by the students. The weekly overview provided a guide to what students needed to do that week, and also helped them navigate through the online environment.

I made sure those videos were the first things I watched every week before I did the rest of the content. I thought they were a really good overview. (Marissa—TPM1 student)

So it was good because she was able to set out what we needed to do each week, or what we were talking about [in a short weekly overview video]. And it was all coming from her, so we could see her and hear her, and actually, know. Because sometimes when we read things I second guess. Is that right? Am I supposed to do that? Is this the way she wants it done?



Fig. 15.4 Screenshot of AL instructors presenting weekly overview video

But when she would do it and show us in the video, seeing it. Yes, they were really good. (Patricia—TPM1 student)

The weekly overview in TPM1 served to establish continuity. It first looked back to what had been learnt last week. It then moved forward to what to expect in the coming week. This established important links between parts of the content.

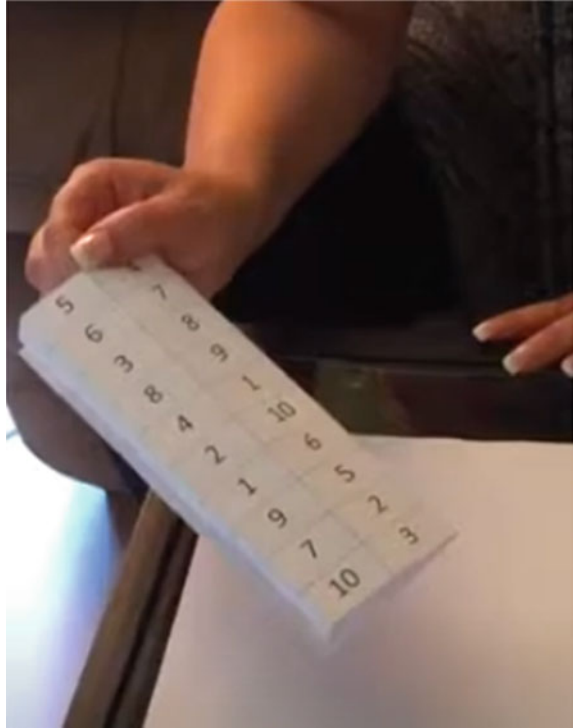
I think both that format for the info video and just sort of recapping on last week's content and then moving forward, I think that's really ... because it's kind of your front facing engagement. Even though you're at home, you feel like you are being engaged on a human level, which is quite nice. So definitely as an online person that's of value. (Nadia—TPM1 student)

Because it was useful because she was preparing you to, well, she was refreshing our minds what we did last week and then, because sometimes there were subjects where it was connected from one week to the next. So, it was good, just a refreshed. And then she just, she tells you what you're expected to do this week in video. (Oscar—TPM1 student)

15.3.3 Activity Demonstration Video

Many of the weekly activities in TPM1 focused on students solving mathematics problems and sharing their solution strategies. In addition, students were encouraged to try out activities at home, or with school students. Sometimes the activities were accompanied by a short video demonstrating how to do the activity or showing students completing a similar activity. The provision of activity demonstration videos was aimed at increasing students' own confidence with engaging with mathematical problems and providing them with practical activities and resources that could be used

Fig. 15.5 Screenshot of TPM1 activity demonstration video: using a skip counting chart



in the classroom. Figure 15.5 shows a screen shot from a video which demonstrated how to construct a skip counting chart.

Another demonstration video showed how to use Multi-Arithmetic Blocks (MAB) to model the subtraction algorithm (see Fig. 15.6). On-campus students had access to the real materials and modelling of how to use them, and the demonstration video provided online students with a very similar experience. When using MAB to model the subtraction process, it was essential for the lecturer to use the correct terminology (e.g., ‘regrouping’ rather than ‘borrow’) and to demonstrate how to exchange and regroup the materials. The demonstration video also provided a resource for on-campus students who may have been absent and offered the affordance of being able to be viewed repeatedly.

The students provided feedback as to the usefulness of the activity demonstration videos.

So, the videos really helped. I could go back, and I could be like, ‘Oh, is that how they do that?’ So, all these physical equipment that they use, it was good to see what it looks like and how they can manipulate them and things like that. ... She put a little bit of humour in there, here and there, to make you feel like it’s not that bad. (Jasmin—TPM1 student)

I really enjoyed ... the weekly activities that the Lecturer gave us. Like I said before, she really encouraged the whole thinking out of the square, and not just doing formal algorithms, explaining how you [do them]. (Patricia—TPM1 student)

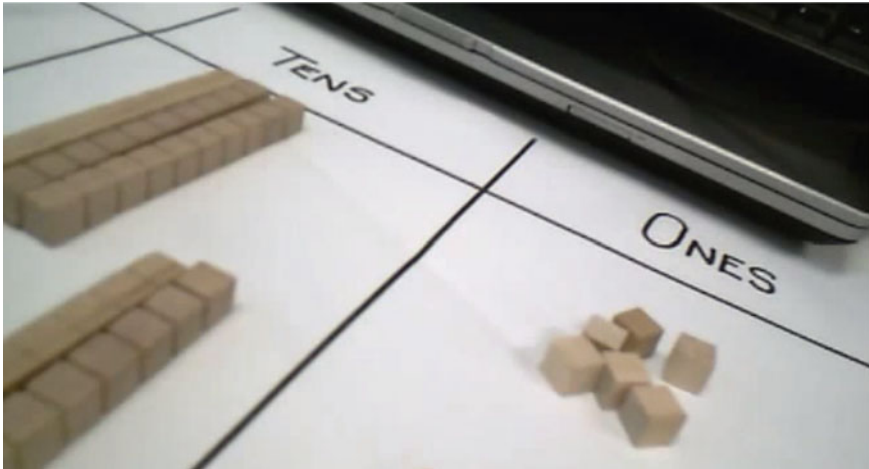


Fig. 15.6 Screenshot of TPM1 activity demonstration video: modelling an algorithm using multi-arithmetic blocks

15.3.4 Assessment Preparation Videos

Well-designed assessment is an important part of a subject to support students thoroughly engaging with the content. Students tend to be assessment-driven (Biggs & Tang, 2011). Use of assessment preparation materials provides an opportunity for the teacher to engage students in meaningful learning activities (see Fig. 15.7).

Assessment preparation videos or lectures guide students through assessment tasks. This helps students complete the assessments in the intended manner as meaningful learning experiences. In assessment preparation videos, teachers can also provide answers to students' common or typical questions, reducing the questions posted on discussion boards.

Assignment lectures, which were really, really handy, because she went through it a little more and it alleviated some of the questions that we might have, and it might also bring up a few more that we had, ones that we probably wouldn't have considered beforehand. (Wendy—PPB student)

So, she put together this PowerPoint presentation and a talk through. What another lecturer did – his was a little bit shorter than that, but he also provided a quite comprehensive – so for each section of the assessment that we had, he provided quite comprehensive notes that we could print out as well, so that was – yeah, a little bit different to what Lecturer did. I often went back and towards the assessment due dates, I went back and watched them a couple of times again. (Teresa—PPB student)

Fig. 15.7 TMP1 assessment preparation PowerPoint slides

Work samples

Select 2 from 3 provided

Algorithm example similar in nature to the following:

$$\begin{array}{r} 368 \\ +296 \\ \hline 51514 \end{array}$$

[Subtraction example provided]

Ordering fractions sample
Equals sign sample

EMT521 AT2

12/09/2022

Marking rubric

- Worked solution of problem/s - correct and clear?
- Interpretation of student response – accurate? Logical rationale? Linked with relevant and contemporary literature?
- Identification of teaching strategies and approaches – key ideas identified? Appropriate strategies provided? Are they consistent with EMT521 content? Links made with AC
- Demonstration of an understanding of broader aspects of mathematics teaching and learning? (pedagogical practices – relevant to strategies and approaches)
- Academic writing and presentation – carefully proof-read? Correctly APA referenced?

EMT521 AT2

12/09/2022

Other considerations

- Word count – 2000 words
- Reference list – APA7
- Repeating unit – avoid self-plagiarism
- Refer to unit content covered (will need to read ahead for equals sample consideration)
- Due date Monday 27th April
- Discussion board – post questions there
- No documentation necessary for extensions up to 5 days

EMT521 AT2

12/09/2022

15.3.5 Assessment Feedback Videos

Feedback to students regarding performance in their studies, particularly in relation to assessments, is a critical component of student support. Feedback can be provided to students in a number of formats (text, audio, video) with feedback videos shown to be advantageous to student engagement and performance (Crook et al., 2012; Henderson & Phillips, 2015). Videos can be utilized to provide both personalized assessment feedback and generic feedback to an entire class.

Assessment feedback videos can be a critical component of teacher-student interactions. As identified by Henderson and Phillips (2015), students find personalized video feedback to be caring and supportive, and motivates them to improve. Generic or whole-of-class feedback in a video format can also impact on student learning and readily support student progression (Cann, 2007; Crook et al., 2012). A video format provides a teacher's presence in the online environment that can motivate and engage students in relation to feedback; students often identify a preference for video feedback compared to text or audio formats, as the video format supports a sense of belonging and enhances student-teacher interaction (Espasa et al., 2022). It is also a key component of inclusive assessment (Fung et al., 2022), assisting accessibility and catering to different learning preferences (e.g., audio or visual). Assessment feedback by video is particularly valued in visually based areas of study (McCarthy, 2015), such as in The Arts (e.g., music, visual arts), and Physical Education.

After an assessment is marked and grades are ready for release, the lecturer can easily record a video to provide the class with key points in relation to the assessment (see Fig. 15.8).

This generic form of feedback can be provided online in an announcement or as part of a specific module of content to enable ready access by students. An example is set out in Fig. 15.9.

Alternatively, depending on the assessment type, videos can be recorded for, and attached to, each student submission to provide prompt and easily accessible feedback. A combination of video and text feedback can be beneficial to students.

The feedback provided on my report enabled me to see my failings and the video feedback provided me with some additional pointers to improve (HAPIA student survey comment).

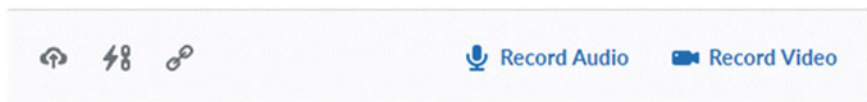


Fig. 15.8 Screenshot from LMS showing assessment feedback options

Announcement: Muscle contraction – Generic feedback

Dear {FirstName},

In addition to the previous Announcement, please note that I have released a generic feedback video recording for the Muscle Contraction report.

This is attached to this Announcement and is also located in Assessments>Assessment Task 3 - Muscle Contraction.

I hope that you find this feedback useful.

Kind regards, {Teacher name}.

Fig. 15.9 Example of assessment feedback announcement from HPA1A

15.4 Discussion Forums

Discussion boards (also termed ‘discussion forums’) are the primary element of online learning which facilitates teacher–student and student–student interaction, providing an avenue for interactive learning and communication (Onyema et al., 2019). Discussion boards can be viewed as online learning tutorials in an asynchronous online environment that supports collaborative student-centred learning (Covelli, 2017; Gregory, 2015). They can be used to provide an avenue for students to ask questions related to the subject of study, specific content, or assessment, as well as an online platform for dialogue to be shared in the discussion of key content. Discussion boards can be set up for the whole class or specific groups within a cohort to enable rich discussion of content. Students can also facilitate discussions to motivate student participation and enable innovative ideas to be generated in a safe environment (Baran & Correia, 2009; Douglas et al., 2020).

Discussion boards are a channel commonly used for exchanges between teachers and online students. Posts on discussion boards need to be engaging and fit for purpose and should align to intended learning outcomes (Douglas et al., 2015). Postings by the teacher are important for encouraging student participation on discussion boards and for giving feedback on student posts (Ghadirian & Ayub, 2017). As shown in the following quote, where teacher posts give constructive feedback, students feel that it is worth spending time contributing posts to a discussion board, as their learning is supported.

Giving good feedback, but also going “Ah, but have you considered this?” And then you’re thinking that bit more, which I think was really good. It wasn’t just you made a post and that was it. Actually, you were challenged that little bit further which I like. And also, it encourages you to think that little bit more. (Tiffany—PPB student)

15.4.1 Discussion of Views and Content

Online learning can be a lonely experience. Discussion boards provide a way of bringing a sense of community into online study and enabling teacher–student and student–student interactions. Ensuring that weekly content is released in a timely manner enables students to engage in online discussions about the content and prepares moderators to facilitate the online discussion as required (Douglas et al., 2020; Lumpkin, 2021). Student–student interactions can be effective in enhancing student understanding, as illustrated in Fig. 15.10.

Students like to know what other students are thinking. They can find it reassuring to check their own understanding of a concept or idea against that of others. Facilitators can moderate this effectively by also being present and enabling structure to the discussions (Ghadirian & Ayub, 2017). Students benefit from reading posts from other students and contributing as they wish to the discussion, as shown in these responses.

It was really good to bounce ideas off other students and just get a bit of an idea if I was on the right track with reading other people’s comments and what they had written on the discussion board. (Gia—AL student)

I used the discussion boards primarily to check my own thinking. So, if I was not sure about something, I’d pop on and I’d see what other people were commenting, and if I felt that I had something to contribute, then I would, or I would ask a question, and I did contribute probably most weeks. (India—TPM1 student)

An important part of a university education is the development of conceptions of knowledge or epistemological beliefs (Baxter Magolda, 1993; Schommer, 1994). Innovative activity-based discussions can provide a rich and dynamic communication forum (Mooney et al., 2014). Students need to move beyond believing that every

Discussion Thread: what kind of disease will affect the haematological system?

Student 1:
*Hi,
 I understand that leukemia will affect the immune system since they cannot make white blood cells (correct me if it's wrong), but what about haematological system? Is it something relates to the platelets or fibrinogen? I'm bit stuck...*

Thanks!

Student 2:
Are you referring to leukaemia, or another disease such as haemophilia?

I'd imagine that would affect the haematological system, as this genetic disease means that the affected person(s) lack a specific clotting factor, which affects platelets and therefore the ability of their blood to clot (hint: they're not able to!)

Fig. 15.10 HAP1A discussion posts showing student–student content discussion

question has one right answer, to accepting that knowledge is contested. Discussion forums, in which a variety of views are expressed, facilitate this process.

But it did encourage discussion of the content that was discussed during the week, and I think, being an online student, that was beneficial from that point of view of being able to see a variety of views. And yeah, I think sometimes being able to write things down and discuss them in a forum like that, it helps to increase your understanding. (Francesca—AL student)

The excerpt set out in Fig. 15.11 was taken from an exchange on a discussion board in TPM1 about whether formal algorithms should be taught in primary school, and if so, when. The exchange shows how students were able to present their views and progress beyond discussion to debate a contentious topic. Supporting students in these discussions enables critical thinking and fosters student–teacher and peer collaborations in a safe environment (Osborne et al., 2018).

Another example of discussion posts in which knowledge was contested came from HAP1A (Fig. 15.12).

Discussion Thread: Teaching formal algorithms

It might sound harsh but the formal algorithm should be introduced at the start or not at all. If you introduce it in the 4th grade it will just confuse the students too much. This is from personal experience of being taught one way and then the next years teacher said to do it another. (Student 1)

I honestly don't know if formal algorithms should be introduced before or after Year 4. I'd imagine it depends on the child and the progress they had made. For some, the formal algorithm approach may be the key that opens up their understanding to maths, in which case it would be a shame to have withheld it. Considering that many students will go on to learn more complex maths, learning the formal algorithms is going to be a necessary step in their study, but I can see the benefit of establishing a firm foundation in understanding basic maths concepts before moving on to things they are not developmentally ready for. (Student 2)

I think this week's topic has raised a variety of emotions in me... most likely because it has caused me to question some of the things I have been doing at home to 'help' my children broaden their mathematical understanding, but really, I think it was probably undermining what may have been happening at school without me realising! It makes A LOT of sense to me to hold off on formal algorithms until grade 4 or so. Having your mind open to different ways of approaching mathematical problems helps to eliminate the very black/white, right/wrong nature of the maths I grew up learning. If nothing else, it breeds a better relationship with the subject when you aren't always getting things 'wrong'. (Student 3)

Fig. 15.11 TPM1 exchange of discussion posts showing student–student debate

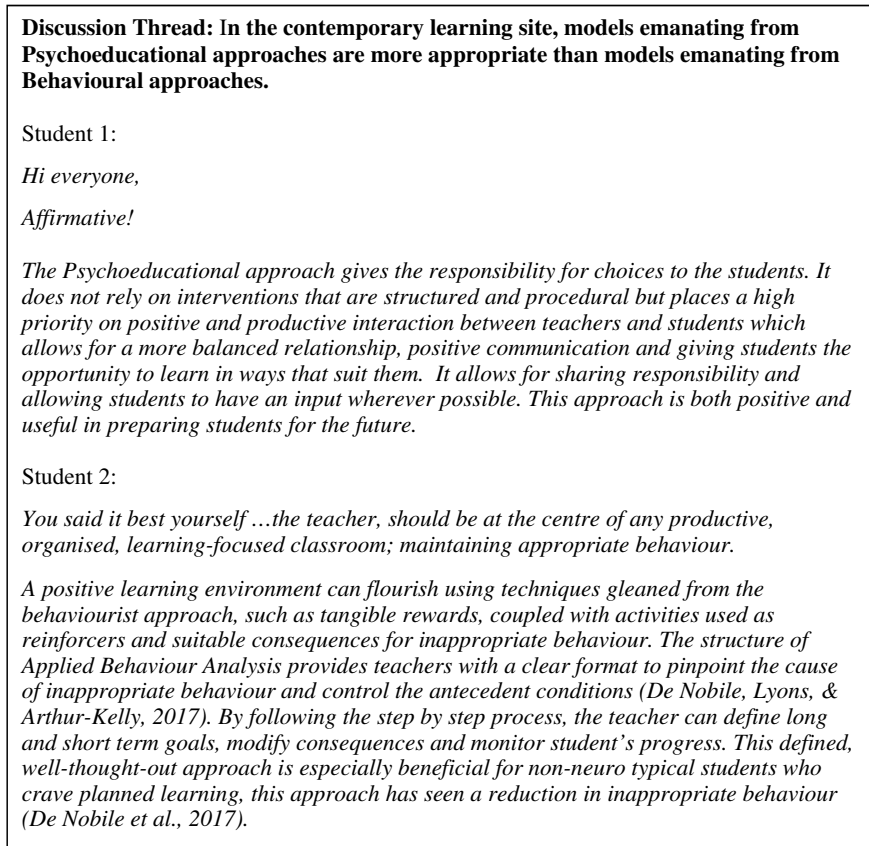


Fig. 15.12 HAP1A discussion posts showing student–student contesting of knowledge

15.4.2 Forum for Answering Questions

Learning often involves asking questions as a self-check of understanding or ‘being on the right track’. Students regularly have questions about their understanding of content, and questions about how to complete activities and tasks. In the classic model of on-campus teaching, these questions are asked—and answered—in tutorials. In online learning, discussion boards fulfil this function and provide a platform where student anonymity may be enabled. This can provide a safe online environment for students to post questions.

Ideally, the discussion around questions should be answered through exchanges between students, unless teacher intervention is required to ensure that students do not misinform one another or ‘go off track’. Discussion boards are often designed to encourage student–student interaction and enhance learning with peers in an online environment, a concept discussed in detail in Chap. 17. Such exchanges can help

reduce the loneliness of online learning, as noted in the following student interview comment.

And then you could also communicate with the other students and see what questions other people have that were similar to mine ... like, I'm in the same boat, so it alleviated some of my stress "Okay, I'm not the only one." (Wendy—PPB student)

While student–student exchanges are valued, there are expectations that the teacher will have a strong presence on the discussion boards. The teacher is seen as the one with definitive answers to questions and should moderate student discussions and post as necessary to ensure that student discussions are relevant and accurate. An example of student–teacher exchange is shown in Fig. 15.13.

Students also appreciated the timely answering of content-related questions in discussion boards, especially from the lecturer.

Discussion Thread: Passive Transport

Student:
Hi!

I don't know how can I ask, but I was wondering why e.g.) Glucose molecule can recognise and move to the receptor site? Is it because of the density and the molecule wants to move into the cytoplasm? Also, what is the main difference between carrier protein and channel protein?

Teacher:

Hi [Student name],

Interesting questions! Glucose, like all molecules in solution, is moving around randomly (this is called Brownian motion) so purely by chance it will interact with the carrier protein which has the perfect structure for a glucose molecule to snugly fit in to (kind of like a lock and key). Glucose will always be at a higher concentration outside the cell because the cell is sneaky and adds a phosphate group to glucose as soon as it enters the cell to "trap" it!

The difference between a channel protein and a carrier protein is that a channel is like a big hole or pore spanning the membrane from the extracellular to intracellular side. A carrier protein on the other hand is not constantly "open" all the time, so it will change shape to move a molecule or ion from one side to the other. Some carrier proteins are involved in active transport (require energy) and some are involved in passive transport (no ATP required).

All the best,

[Teacher name]

Student:
Thank you so much!

Fig. 15.13 HAP1A discussion posts showing teacher presence in content question

If you have a laboratory report as an assessment item, you can set up a discussion board titled Laboratory Report. This discussion board would be released when the details of the assessment task are released to students.

All student queries regarding the laboratory report can be posted here and answered by other students or the teaching staff. Teaching staff can also use the discussion board to share useful resources with students to assist them with their report writing.

After the reports are submitted and marked, teaching staff can provide generic feedback for students in this discussion board

Fig. 15.14 HAP1A laboratory report discussion board instructions

I didn't use it [the discussion board] so much to interact with other students, but I used it a lot to ask questions of the tutors and the lecturers, and I felt like, yes, I could ask questions on behalf of other people as well, who might not have been as confident to ask the question. (Diane—AL student)

15.4.3 Assessment Information

Students are often assessment-driven (Biggs & Tang, 2011), and assessment is a key component of the learning experience. As a result, as with videos, discussion boards used to clarify assessment tasks are seen as valuable. Discussion boards can be set up specifically for individual items of assessment or to provide assessment guidelines and tips. This provides a supportive teacher–student environment that is often valued by students. Figure 15.14 shows instructions to teaching staff about use of a discussion board for an assessment task, while Fig. 15.15 gives an example of discussion board posts regarding assessment information.

15.4.4 Discussion Board Posts for Assessment Task

Students acknowledge the benefits of discussion boards that are linked to their assessment tasks, as shown in these quotes.

What I got out of them was the general questions on the discussion boards, and that was where the other students are answering questions about assignments and that type of thing. So while I was doing my assignments if I read through that any questions I might have would be answered most of the time and also give me a clearer direction of what I needed to do for the assignment. (Sandra—PPB student)

Quite a few times I was unsure about how to go about completing a task and, yeah, she was really helpful with that. One of the, our last assessment task that we had to do, it was creating a video and I'd never done anything like that before. So, I was quite stumped. At

Hi [lecturer]

I've got a couple of questions so I just put them all here:

Is the reference list included in the word count?

With the clock question, are we supposed to show 2 ways of solving that as well or just calculate it whichever way we find since there are multiple answers?

Thanks

[student]

Hi [student]

The reference list is not included in the word count for this assignment. You are supposed to show at least two ways of solving the problem whichever problem you choose.

Hope this helps

[lecturer]

Fig. 15.15 TPM1A discussion board posts for assessment task

the beginning of the semester, I thought oh, how am I going to, you know, how am I going to do this? I've never done anything like this before and by the end of it I was really confident in completing the assessment. (Gia—AL student)

15.4.5 Managing Discussion Boards

15.4.5.1 Setting Up Discussion Boards

The quality of interaction and discussion in a forum is highly dependent upon the way the forum is set up and managed. The University of Tasmania has several guides which assist teaching staff to set up effective online discussion forums and discussion boards (e.g., <https://www.teaching-learning.utas.edu.au/communication/online-discussions>).

When creating discussion boards related to content, the first prerequisite is designing or choosing a topic to which students feel is worthwhile spending time contributing. It needs to be a topic which is meaningful and significant to their learning and will provide engaging and fruitful discussions rather than just an answer to a question. The topic should be one which stimulates discussion, such as the one related to the teaching of formal algorithms discussed earlier. The second prerequisite is that the topic is set up in an organized way, so that posts build up into logical discussion threads. Each student response should link to a previous post.

This discussion space is where you can post specific questions about the content of the subject and discuss answers to example questions in an online forum. You may choose to post anonymously to this forum.

Example of Discussion Board in Content Discussion Forum: Nervous about Hormones

The nervous system and the endocrine system are the main control systems of the human body. It is important to have a basic understanding of these systems to understand how other body systems are controlled.

Confused about any aspect of these control systems? - then post here! You may post anonymously if you wish.

Students can post any questions and answer any questions about the neuroendocrine module in this discussion board. Staff will also monitor this discussion board.

Fig. 15.16 HAP1A discussion board instruction for students

[Lecturer] had set it up differently, so that you kept building on the thread. She sort of posed the questions to start with in our reading, around, you know, in our weekly activities. And then the first person started, and then we all replied to the same thread as in, the idea was that you finish your post, commenting on what the other people had posted, and then adding your bit to it, and posing another question. (Kayla—TPM1 student)

Discussion boards also need to have clear academic goals which are communicated to students. A code of conduct and practical guidance on participation is essential to ensure that the discussions successfully engage students and promote student learning. An example is set out in Fig. 15.16.

15.4.6 Moderating Discussion Boards

The teacher needs to be an active moderator or facilitator of a discussion board, as well-prepared facilitators have a positive impact on student engagement and learning (Douglas et al., 2020). Discussion threads and responses should be designed to encourage students to contribute to posts. The conversation needs to be gently steered and openings provided for further and deeper contributions. Online etiquette should also be enabled to ensure that posts are appropriate. Teacher presence is a critical factor for positive student experiences in online discussions (Shea & Bidjerano, 2010), as shown in the following student comments.

And answering just, yeah, if I had any queries or questions or anything like that. [Lecturer] was always really prompt on replying to the messages. Which sometimes if you're studying and, you know, you sort of can't go any further until your question's answered. (Gia—TPM1 student)

The thing I appreciated about Lecturer was she was very active on the discussion board. ... we had a few pieces of assessment that people had a lot of questions about. ... so that was really helpful because obviously they're in those last few, sort of, that last 24 hours before an assessment is due in, and something pops up in regards to the topic, you couldn't stop writing. And she was very fast with that. (Francesca—AL student)

An important role of the moderator is to draw out conclusions from discussion threads. This involves bringing together the discussion threads and providing coherence, illustrated by this quote.

[Lecturer] did start doing that too, was kind of a summary response rather than responding individually and I think that's good because – it's good for students and probably for the lecturer as well in that you're not having to go through every post to read the responses if there's 100 posts. (Regan—PPB student)

This requires effective training of moderators to ensure that they do not 'drive' the discussion but rather summarize key points and 'steer discussions back on course' if required.

15.5 Learning Materials

The selection and organization of learning materials are important aspects of instructional design in online learning. Research confirms the impact of instructional design on student outcome and satisfaction (e.g. Kauffman, 2015). Similar to any traditional face-to-face degrees, teachers in blended and online degrees are responsible for providing quality learning materials relevant to the subject content. Learning materials used in blended and online degrees can be in a wide variety of forms and utilize a variety of media. Learners should be provided with materials that assist self-directed learning, including scanned copies or links to articles, recorded lectures, and links to websites, as well as materials that foster interactions and community building among learners. Research reveals positive effects of constructivist-based instructional design on learners' self-directed learning and developing a sense of responsibility (e.g., Ke & Xie, 2009; Ruey, 2010).

15.5.1 Organization of Learning Materials

The organization of the learning materials on the LMS is critical. Content organization can be an important factor influencing student behaviour, motivation, and satisfaction.

15.5.1.1 Organization of Content

Navigating content is like going on a journey. If students are to reach the destination, they need a clear pathway with an explicit route map. In the subjects described in this chapter, content is organized into weekly topics, which are displayed as web pages in the LMS. Figure 15.17 provides an example of a subject with weekly organization.

Other ways that content can be organized is by moving weeks into groups, which sit within an overarching theme. In Fig. 15.18 weekly content is grouped into blocks termed ‘Modules’ which further guide students in the topics they are learning. In this example, the weeks are also named to assist navigation.

Online students often have other duties or commitments, such as work or childcare responsibilities (see Chaps. 4, 5, 6 and 7). Many online students use short periods of time in the evenings or on the weekend to complete their studies. As such, it is often easier for them to follow or understand material in small sections, organized into manageable steps or chunks. These manageable chunks are then gathered into weekly topics. This arrangement provides logical ordering and helps students manage their study schedule. Some subjects go further with this ‘chunking’ by using an organization system within the weekly content. In AL, for example, headings are used, but also numbered in a logical system. The first number is the week, and the second number is the activity. The example in Fig. 15.19 demonstrates this, showing activities 4 and 5 within the Week 1 content.

Students provided the following comments on how the online subject was structured.

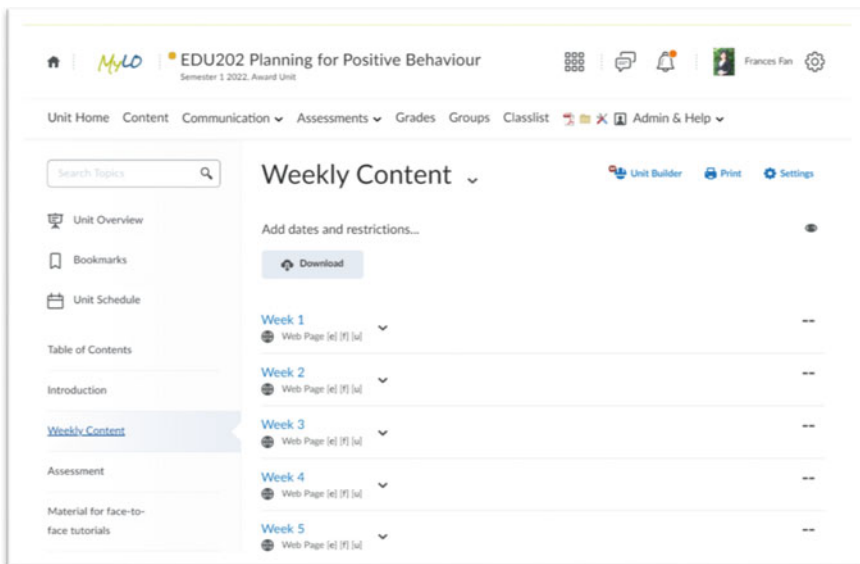


Fig. 15.17 Screenshot from PPB showing weekly content organization

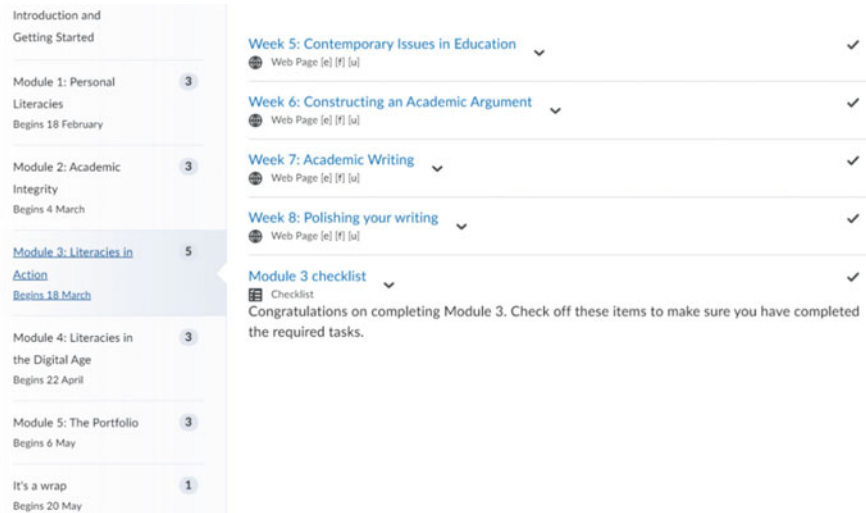


Fig. 15.18 Screenshot from AL showing module content organization

MyLO really helped me do everything online. Like the lectures are set out, like the lectures are placed under Week 1, Week 2, Week 3, like they form a layer, it's very easy to use if you move your way around the website. And it always did feel like my mind was on lectures coming up or whether there were any exams coming up or assessments coming up so you're not falling behind or something. (Karen—HAPIA student)

So, it was very much a step-by-step process and it was very hard to actually get lost. You really just worked your way through each week's content step by step, and all the links were there available. ... So, it was very easy to navigate. (Francesca—AL student)

Learning materials in online degrees are often diverse in their formats and may contain multiple components. An overview for each week can help students understand the tasks and topics for that week and support a logical flow during navigation. An example of this can be seen in Fig. 15.20.

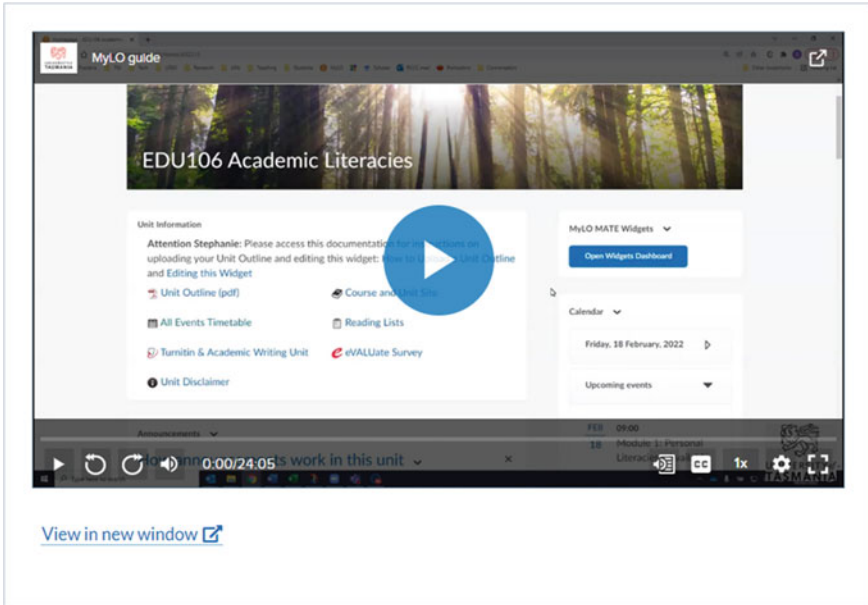
Students commented in the following ways.

And then she'd have your reading, and then she'd have your activity as well for your online thing. So I found that the way she set things up, it was really quite clear, and you could break it up and do it in parts. So, for me, being busy, that certainly helped. Having the webinars as well with plenty of advanced notice before assignments really helped. (Tiffany—PPB student)

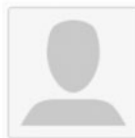
The weekly tutorials, so going into the LMS page and watching the lecture, then going through the actual, you know, each point, and the tasks associated with that. I found that really helpful. I actually would print it off, the page, so that I could read through it and marry it up online and check off when I'd done it. I found that really helpful, and especially with the online quizzes, having that – all the information was there, which was really good. You just had to make sure you read it, and I found that really good because it wasn't holding my hand through it, but I knew that it was there, that I could always go back to it. (Brittany—AL student)

1.4 Navigating MyLO

Watch this video to see how to use MyLO. Feel free to poke around your units - you can't break anything 😊



1.5 Getting to know each other



Who are you?

An interesting observation is that, regardless of your path so far, all of you have come together on your next learning journey at this same point in time. You have met at a crossroad, so to speak. The names and faces of your peers who you see in this unit will be joining you as travel companions over the next few years.

Fig. 15.19 Screenshot from AL showing activities

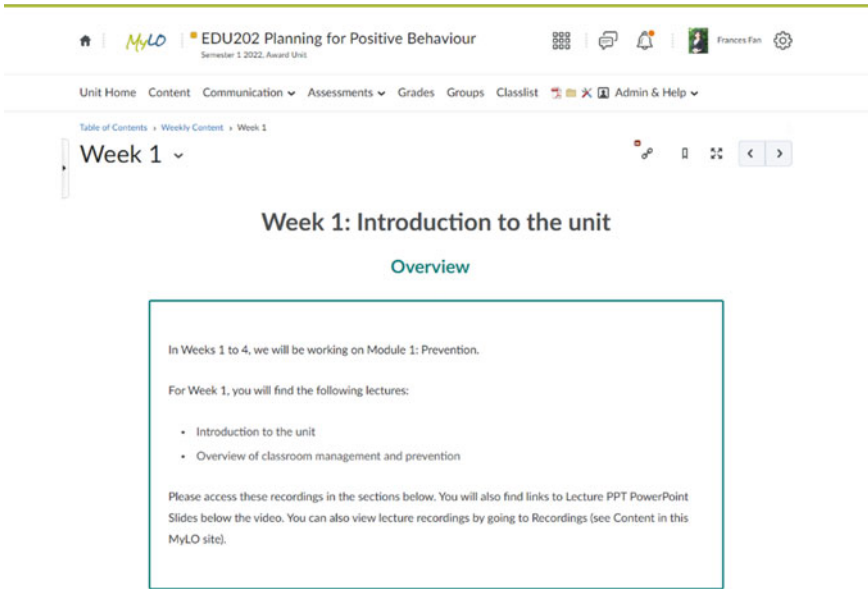


Fig. 15.20 Screenshot from PPB showing weekly overview

In the subject AL, checklists were used at the end of each Module to help students identify the key tasks in the weeks they have completed. This is another way of helping students navigate content in the unit and provides a guide of what they should have done in each week for their learning and assessment. Weekly, or in this case Module, checklists provide a ‘bookend’ for the weekly overview videos. An example of a Module checklist is provided in Fig. 15.21.

15.5.2 Lecturer Assistance to Support Navigation

In addition to content organization, students also identified lecturer assistance as an important factor in supporting their navigation in the subject. Having the content well-organized in manageable chunks is the first step. It is then important to signal the way in which the organization works. A clear heading structure for content is part of the signaling. Consistent signaling with colour coding and icons is also considered valuable, as they respond to the diversity in online learners, many of whom may be visual learners. This is reflected in the following participant comment.

One big factor was just the layout of the online content. I’m quite a visual learner - and visually, it looked beautiful. It was brightly coloured, it was easily accessible. There were, sort of themed images that every week, you knew exactly what the lecture looked like. ...

Module 2 Checklist

Description

Congratulations on completing Module 2. Check off these items to make sure you have done all the tasks.

Week 3: Academic Integrity and Attribution

- I have bookmarked the Purdue OWL APA7 website and downloaded the School of Education referencing guide to use for my academic writing
- I have completed Assessment Task 2a, the quiz on academic literacy and APA referencing

Week 4: Living in a Digital World

- I have read the chapter Balancing Risks and Growth in a Digital World
- I looked at the Cyber Safety: An Interactive Guide to Staying Safe on the Internet and I have a good idea of this content
- I know what systems and software are available to me through UTAS
- I have completed Assessment Task 2b, the quiz on social media and ethical online practice

Fig. 15.21 Screenshot from AL showing checklist

The layout thing was really important. So, some of them would create them on a page that was colour coded. Every time you saw a particular colour, you knew, that was your reading. (Marissa—TPM1 student)

Where there are multiple components to the learning materials, the lecturer can provide extra guidance through explanations about the content organization. This can help students understand how to navigate through them and incorporate each component into their study plan. One participant in this study discussed two different ways in which navigation information were presented.

One of them did a video of the lesson outline to explain what assignments would be coming up. Another one did a video of how to navigate through the discussion boards, so I didn't get any of that last semester, and I took a lot of time. I think that's why I'm excited to start this semester, because I don't have to worry about all that now, but that took a lot of time working out on my own. (Yolande—AL student)

15.5.3 *Quality of Content*

Quality of content is an important element of effective learning materials. Yang and Cornelius (2004) identify a number of factors contributing to negative experiences of students, including poorly designed degree content and lack of self-motivation. Good quality content can enhance online learning experiences of students. This part of the chapter addresses three important aspects of the design of learning materials: relevance, interest, and variety.

15.5.3.1 Relevance

Materials should be tailored to suit students' needs. Students are more likely to be engaged if learning materials appear relevant to them, both in their lived experience and in relation to their discipline of study. Relevance is particularly important in professional degrees, where students are required to link theory with practice. In this sense, students' needs can be understood and met through relevant content knowledge that is required for professional development. Kember et al. (2008) presented evidence of the importance of relevance in motivating student learning, which includes discussion of three types of relevance:

- Relevance to everyday applications.
- Relevance to local issues.
- Relevance to current topics.

The students in this study made the following comments.

Make it applicable and real I suppose. Rather than, when I was at school ... we were taught the concept on its own ... in a fragmented way. It wasn't connected to anything else that you were doing. (Natalia—IC1A student)

The [subjects] were relevant to me and what I'm actually doing at the moment. I actually work with disengaged youth, so everything I have been learning has been really relevant. And honestly, I've taken something from every single [subject]. I haven't found any of them to be useless. (Tiffany—PPB student)

15.5.3.2 Interest

Interest is a very powerful motivating force. When students are motivated to complete an activity or a task, they are more likely to employ their full determination, time, and energy to continue learning (Bailey et al., 2021). Interest varies among individual students and giving students a choice can often enable them to pursue their own interests. Martin and Bolliger (2018) reported that their participants appreciated being able to select topics for degree assignments based on their interests and the opportunity to pick relevant readings. Students in TPM1 were given 3–4 discussion prompts each week and could choose the ones to which they contributed. In the same unit, students were also given weekly mathematics problems to attempt, which often piqued students' interest:

That was a bit of a – something fun to do, I guess? When you know, you're still learning all of the other stuff, but then it was like, you know, every week she had "Let's do some Maths" things. And so, it just sort of, I don't know, got you out of too much overload I think, that can sometimes happen. Where you're just focusing so much on how to teach it, rather than actually doing some Maths. So, I really liked that. Just that, I don't know, to me it was like, a bit of fun. (Kayla—TPM1 student)

15.5.3.3 Variety

Variety is another way to motivate student learning. Dixson (2010) found that having a variety of activities made students feel engaged. Variety can also be incorporated through presenting content in different ways.

Students made the following observations regarding the variety of resources and activities.

One of my most favourite ones so far had a really broad range of ways we presented things. So, we, you know, did videos for some things, we presented written things for others. He brought in specialists to do short lectures. He did conversations with other experts. And so, it was always changing and engaging. (Marissa—TPM1 student)

She gave us a bit of variety as well, as in, there would be maybe three or four things that we could post about. But you didn't have to post on every one. So, if you had a real interest in one thing, you could, you know, sort of follow through on that. (Kayla—TPM1 student)

Variety can also come through including a range of different types of learning materials and activities. A participant in this study expressed the following view.

I was really, really happy with the way it was set out in terms of, it wasn't all reading nor all lectures, and only very, very short lectures, and then there were videos and quizzes, and resources, and it was a lot of different things, which kept it interesting. (Lisa—TPM1 student)

15.6 Teacher–Student Exchanges

Support through teacher–student exchanges involves the direct interactions between students and teachers, including both lecturers and tutors. Underpinning teacher–student exchanges is the notion of a professional relationship, with this relationship ideally being founded on support and shared positivity between both teacher and student towards the respective subject. Chepchieng et al. (2006) described the teacher–student relationship as having all students' best interests at heart, while providing support, academic direction, and opportunities for growth through learning. Typically, teacher–student exchanges occur through discussion board posts, but also through emails, phone calls, or discussion through communication software such as Zoom or Microsoft Teams.

The distinction between this pedagogical element and the discussion board element is that the pedagogical elements of teacher–student exchanges focus more on communication with individual students. Commonly, subjects consist of large numbers of students within a cohort, yet each of the students in a subject likely represent differing and unique circumstances that can influence their individual approach to subject participation, engagement, and learning. For instance, socioeconomic background, employment status, family obligations, and access to educational resources may vary between students, and subsequently influence academic conduct and performance (Czarnecki, 2018). Against this background, it is imperative that

teachers create an environment for all individual students that is safe, fair, and equitable, and invites open and honest communication. Establishing an environment of communication and collaboration will encourage individual students to approach the teacher by phone, email, or communication software at any time they need to. In addition, the teacher can use a discussion board to respond to an individual post to promote individual communication and connection. However, the teacher should be mindful that the post can then be seen by all students in the class.

15.6.1 Teacher Disposition

Teacher disposition is relevant in characterizing quality and effective teaching. According to Martin and Mulvhill (2017), dispositions are a combination of “skill and will” (p. 173), typified by intelligent habits that manifest in teacher’s actions and persistent efforts to support the learning of all students. Extending on this view, Schussler et al. (2010) described teacher dispositions as the inclination to achieve particular purposes, and the awareness of the self and the context of a given situation to employ appropriate knowledge and skills to achieve those purposes. Lecturers and tutors’ dispositions influence the way in which they teach and interact with students. Incorporating positive dispositions into practice can provide a sound foundation for teacher–student exchanges to be productive and mutually beneficial.

For teacher–student exchanges to be perceived by students as offering effective support, teachers need to project their presence and personality. This can be challenging when that presence must be projected through the online medium. Methods for teachers and tutors to project an online presence are illustrated in this chapter in the *Bite-sized videos* section, particularly the *Introductory videos* sub-section.

15.6.1.1 Approachability

For teacher–student interaction to be an effective form of support, teachers need to be perceived as approachable. Teacher approachability facilitates positive teacher–student interactions, but also cultivates a feeling of connectedness to the institution while preventing students from becoming alienated from the institution and their study (Stephen et al., 2008). An example of teacher approachability is given in this quote.

So, she was really available. The moment I said “Look, you know. I just would like to...”. Actually, she offered to talk through my assignment and what I had done wrong and where the failure had come from, and she helped me understand what I needed to do. And so I found her quite accessible, which I think yes, was her strength. (Marissa—TPM1 student)

Being approachable to all students is a vital component in being supportive throughout the study journey. Such conduct from teachers functions to build trust in the teacher–student relationship and indicates to students that they are being listened to.

15.6.1.2 Responsiveness

Online students are at a distance from their teachers and studying as individuals. When they have queries, they need teachers who are responsive. Teacher responsiveness has been highlighted as a key predictor of online student satisfaction, with slow communications timelines and a lack of timely feedback detracting from student satisfaction (Roddy et al., 2017). Regarding the subject teachers discussed in this chapter, the main channels used for responding to students were emails and discussion boards. Students often require quick responses as their queries are usually about topics which are not understood or places where they have got stuck. A slow response would impede their study. Student comments on this point include the following.

Whenever I emailed [lecturer], she was always answered my emails within half an hour, and whenever I have anything going on in my mind, if I had any questions or any hardship, I always just ask her. (Karen—HAPIA student)

I valued, he'd always be quick to respond to where we post our discussions, and I valued his input and ways that I can improve in my thinking or what he likes about my thinking and beliefs, which was good. (Vincent—PPB student)

The notion of pastoral care pertains primarily to the wellbeing of students, which can be categorized as intellectual, social, physical, emotional, psychological, and spiritual (Searly & Willans, 2020). If approachability is well established, and the teacher is prepared to be highly responsive, the teacher-student exchange can take on a pastoral role, as discussed in Chap. 12. The following comment provides an example.

When I started it was nerve-wracking. Like I was in tears, and I was like, 'Oh my God. I can't do this, I need to pause, I don't want to continue.' ...The lecturer that I did have, I would ... I think I sent her, like, 100 emails or something saying that 'I don't think I can do this', and she actually called me and she said, 'No, you can.'. (Jasmin—TPM1 student)

15.6.2 Direct Communication

Effective teacher-student relationships in online learning environments are dependent on timely communication through a variety of modes and formats. Easton (2003) identified communication skills as paramount within the domain of teaching online. Communication between teachers and online students takes place through several communication channels, both within the teaching subject and outside it. Contact with students outside the context of immediate study can be of benefit, notably in supporting the transition to tertiary study and the development of a sense of belonging, or academic and social connection to sustain resilience (Chap. 17 and Tinto, 2001). University contact programs can encourage commencing students to talk to academic staff about their initial experience of university, whether their chosen path of study is a good fit, and the extent to which they have formed connections with the academic

community. They can also be used to encourage student take-up of non-academic support. This element examines exchanges through three channels: email, phone call, and assessment feedback.

15.6.2.1 Emails

Emails are one of the most common channels for exchanges between teachers and students. They can be initiated by the teacher. If the teacher is approachable, they are commonly initiated by students.

The tone of emails is important. Emails need to be encouraging and personalized. Ways to do this include using the student's name, understanding the stage of study of each individual student, specifically addressing the issue about which the student is making an enquiry, and exhibiting understanding and a level of empathy in relation to the perspective of the student. The following quote provides an example.

She wrote some emails which were, yeah, which were personalized. I think they were really encouraging. But I think that she was encouraging throughout the [subject]anyway ... just with replying to questions and things like that. (Gia—AL student)

15.6.2.2 Phone Calls

Phone calls can be effective for building relationships with students. Broadbent and Lodge (2021) reported that live chat technology such as phone calls between students and teachers were favourable, with students feeling cared for, enabling access to teachers for help-seeking, and overall increased satisfaction with the subject. An important characteristic of phone calls is that they are interactive, which makes them effective for discussion of content the student finds hard to understand, learning tasks that students are finding challenging, and assignments that need constructive feedback, as shown in this student comment.

I did have a great conversation with her on the phone after I did terribly on an assignment, just to get some advice and some guidance. And I actually really appreciated the phone call. (Marissa—TPM1 student)

15.6.2.3 Assessment Feedback

Assessment feedback is a crucially important element of the exchanges between teachers and students. Students place a great deal of emphasis on subject assessments tasks, including preparing for assessment, finalizing the assessment for submission, and particularly in relation to feedback received on their work. In order to improve and learn, students need to generate, receive, and act upon feedback of different forms. Appreciating what has been done well, becoming more aware of limitations, and developing action plans for ongoing improvement are important features of feedback provision (Carless, 2022). Further, Hattie and Timperley (2007) recognized

that feedback is one of the most significant levers to enhance student achievement. The provision of constructive feedback facilitates a valuable learning experience and helps students progress their academic performance in future assignments. This is demonstrated in the following quote.

The tutor who marked my assessments gave really good feedback as well. And I know, you know, that can be different, but even if you're getting a good result, for me it's like "Well, why have I got a good result? What am I doing well here? What have I written about that you've liked?" So it's good to get some feedback. (Teresa—PPB student)

15.7 Summary of Chapter

The model of online learning support developed in the previous chapter identifies four elements of high-quality online pedagogy as key, and this chapter has illustrated and substantiated these through examples of online practice from the University of Tasmania, together with commentary drawn from students taking these subjects.

Videos can support the relationship between students and teacher, as is demonstrated in the student comments instancing subject introduction videos and weekly overviews. The relationship can also be supported by personalized video assessment feedback. Videos also allow staff to build student confidence and supply exemplars, for instance, in demonstrating activities and supporting assessment preparation.

Learning materials directly affect student satisfaction and outcomes, whether online or face to face. Learning is supported online by the careful organisation of content, with clear pathways orienting students through their studies, and with relevant and interesting weekly content broken into manageable chunks supported by a variety of activities and teacher guidance.

Discussion forums facilitate interaction in online learning, and so can act as asynchronous tutorials, spaces where students can check understanding, share views and develop an appreciation for the contested nature of knowledge. They require a strong teaching presence to appropriately answer questions and clarify assessment tasks, but also to shape student–student discussion through highlighting academic goals in discussion, moderation and guidance.

Teacher–student exchanges allow the varying individual circumstances of students to be considered to support academic conduct and performance. To build trust and encourage contact, teachers need to establish and signal their approachability, and to exhibit understanding and empathy with student perspectives, while avoiding delayed replies or feedback. Teacher-initiated contact can also be helpful outside the context of immediate study, checking in about the student experience of study as a whole. Constructive assessment feedback is a distinct but important type of exchange, allowing students to develop plans for ongoing improvement.

As a matrix of online learning support, the four elements collectively assist in the development of virtual learning communities, and so support student retention and success.

References

- Bailey, D., Almusharraf, N., & Hatcher, R. (2021). Finding satisfaction: Intrinsic motivation for synchronous and asynchronous communication in the online language learning context. *Education and Information Technologies*, 26(3), 2563–2583. <https://doi.org/10.1007/s10639-020-10369-z>
- Baran, E., & Correia, A. P. (2009). Student-led facilitation strategies in online discussions. *Distance Education*, 30(3), 339–361. <https://doi.org/10.1080/01587910903236510>
- Baxter Magolda, M. B. (1993, April 12–26). *The convergence of rational and interpersonal knowing in young adults' epistemological development* [Paper presentation]. Annual meeting of the American Educational Research Association, Atlanta, USA.
- Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university*. McGraw-Hill.
- Broadbent, J., & Lodge, J. (2021). Use of live chat in higher education to support self-regulated help seeking behaviours: A comparison of online and blended learner perspectives. *International Journal of Education and Technology in Higher Education*, 18(17), 1–20. <https://doi.org/10.1186/s41239-021-00253-2>
- Cann, A. J. (2007). Podcasting is dead: Long live video! *Bioscience Education*, 10(1), 1–4. <https://doi.org/10.3108/beej.10.c1>
- Carless, D. (2022). Feedback for student learning in higher education. In *International Encyclopedia of Education* (4th ed.). Elsevier. https://www.researchgate.net/profile/David-Carless-3/publication/357205795_Feedback_for_student_learning_in_higher_education/links/61dd148b034dda1b9eebe391/Feedback-for-student-learning-in-higher-education.pdf
- Chepchieng, M. C., Mbugua, S. N., & Kariuki, M. W. (2006). University students' perception of lecturer-student relationships: A comparative study of public and private universities in Kenya. *Educational Research and Reviews*, 1(3), 80–84. <https://academicjournals.org/journal/ERR/article-full-text-pdf/6516D193321>
- Colasante, M. (2022). Not drowning, waving: The role of video in a renewed digital learning world. *Australasian Journal of Educational Technology*, 38(4), 176–189. <https://doi.org/10.14742/ajet.7915>
- Covelli, B. J. (2017). Online discussion boards: The practice of building community for adult learners. *The Journal of Continuing Higher Education*, 65(2), 139–145. <https://doi.org/10.1080/07377363.2017.1274616>
- Crook, A., Mauchline, A., Maw, S., Lawson, C., Drinkwater, R., Lundqvist, K., Orsmond, P., Gomez, S., & Park, J. (2012). The use of video technology for providing feedback to students: Can it enhance the feedback experience for staff and students? *Computers & Education*, 58(1), 386–396. <https://doi.org/10.1016/j.compedu.2011.08.025>
- Czarnecki, K. (2018). Less inequality through universal access? Socioeconomic background of tertiary entrants in Australia after the expansion of university participation. *Higher Education*, 76, 501–518. <https://doi.org/10.1007/s10734-017-0222-1>
- Di Paulo, T., Wakefield, J. S., Mills, L. A., & Baker, L. (2017). Lights, camera, action: Facilitating the design and production of effective instructional videos. *TechTrends*, 61(5), 452–460. <https://doi.org/10.1007/s11528-017-0206-0>
- Dixson, M. D. (2010). Creating effective student engagement in online courses: What do students find engaging? *Journal of the Scholarship of Teaching and Learning*, 10(2), 1–13. <https://scholarworks.iu.edu/journals/index.php/josotl/article/view/1744>
- Douglas, T., Mather, C., Murray, S., Earwaker, L., James, A., Pittaway, J., Robards, B., & Salter, S. (2015, November 29–December 2). A comparison of undergraduate student experiences of assessed versus nonassessed participation in online asynchronous discussion groups: Lessons from a cross disciplinary study in health and sociology [Refereed Conference Paper]. *ASCILITE 2015*, Perth.
- Douglas, T., James, A., Earwaker, L., Mather, C., & Murray, S. (2020). Online discussion boards: Improving practice and student engagement by harnessing facilitator perceptions. *Journal of University Teaching & Learning Practice*, 17(3). <https://doi.org/10.53761/1.17.3.7>

- Easton, S. S. (2003). Clarifying the instructor's role in online distance learning. *Communication Education*, 52(2), 87–105. <https://doi.org/10.1080/03634520302470>
- Espasa, A., Mayordomo, R. M., Guasch, T., & Martinez-Melo, M. (2022). Does the type of feedback channel used in online learning environments matter? Students' perceptions and impact on learning. *Active Learning in Higher Education*, 23(1), 49–63. <https://doi.org/10.1177/1469787419891307>
- Fung, C. Y., Su, S. I., Perry, E. J., & Garcia, M. B. (2022). Development of a socioeconomic inclusive assessment framework for online learning in higher education. In M. Garcia (Ed.), *Socioeconomic inclusion during an era of online education* (pp. 23–46). IGI Global. <https://doi.org/10.4018/978-1-6684-4364-4.ch002>
- Fyfield, M., Henderson, M., & Phillips, M. (2022). Improving instructional video design: A systematic review. *Australasian Journal of Educational Technology*, 38(3), 155–183. <https://doi.org/10.14742/ajet.7296>
- Ghadirian, H., & Ayub, A. F. M. (2017). Peer moderation of asynchronous online discussions: An exploratory study of peer e-moderating behaviour. *Australasian Journal of Educational Technology*, 33(1). <https://doi.org/10.14742/ajet.2882>
- Gregory, S. (2015). Discussion boards as collaborative learning tools. *International Journal of Continuing Engineering Education and Life Long Learning*, 25(1), 63–76. <https://doi.org/10.1504/IJCEELL.2015.066548>
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112. <https://doi.org/10.3102/003465430298487>
- Henderson, M., & Phillips, M. (2015). Video-based feedback on student assessment: Scarily personal. *Australasian Journal of Educational Technology*, 31(1). <https://doi.org/10.14742/ajet.1878>
- Kauffman, H. (2015). A review of predictive factors of student success in and satisfaction with online learning. *Research in Learning Technology*, 23. <https://doi.org/10.3402/rlt.v23.26507>
- Ke, F., & Xie, K. (2009). Toward deep learning for adult students in online courses. *The Internet and Higher Education*, 12(3–4), 136–145. <https://doi.org/10.1016/j.iheduc.2009.08.001>
- Kember, D., Ho, A. & Hong, C. (2008). The importance of relevance in motivating student learning. *Active Learning in Higher Education*, 9(3), 249–263. <https://doi.org/10.1177%2F1469787408095849>
- Lumpkin, A. (2021). Online teaching: Pedagogical practices for engaging students synchronously and asynchronously. *College Student Journal*, 55(2), 195–207. <https://www.ingentaconnect.com/contentone/prin/cs/j/2021/00000055/00000002/art00008>
- Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning*, 22(1), 205–222. <https://doi.org/10.24059/olj.v22i1.1092>
- Martin, F., Wang, C., & Sadaf, A. (2020). Facilitation matters: Instructor perception of helpfulness of facilitation strategies in online courses. *Online Learning*, 24(1), 28–49. <https://doi.org/10.1016/j.iheduc.2018.01.003>
- Martin, L. E., & Mulvihill, T. M. (2017). Voices in education: Professional dispositions in teacher education. *The Teacher Educator*, 52(3), 173–181. <https://doi.org/10.1080/08878730.2017.1316603>
- McCarthy, J. (2015). Evaluating written, audio and video feedback in higher education summative assessment tasks. *Issues in Educational Research*, 25(2), 153–169. <http://www.iier.org.au/iier25/mccarthy.pdf>
- Mooney, M., Southard, S., & Burton, C. H. (2014). Shifting from obligatory discourse to rich dialogue: Promoting student interaction in asynchronous threaded discussion postings. *Online Journal of Distance Learning Administration*, 17(1). <https://www.learntechlib.org/p/155628/>
- Muir, T., Douglas, T., & Trimble, A. (2020). Facilitation strategies for enhancing the learning and engagement of online students. *Journal of University Teaching and Learning Practice*, 17(3), article 8.

- Onyema, E. M., Deborah, E. C., Alsayed, A. O., Noorulhasan, Q., & Sanober, S. (2019). Online discussion forum as a tool for interactive learning and communication. *International Journal of Recent Technology and Engineering*, 8(4), 4852–4859. <https://doi.org/10.35940/ijrte.D8062.118419>
- Osborne, D. M., Byrne, J. H., Massey, D. L., & Johnston, A. N. (2018). Use of online asynchronous discussion boards to engage students, enhance critical thinking, and foster staff-student/student-student collaboration: A mixed method study. *Nurse Education Today*, 70, 40–46. <https://doi.org/10.1016/j.nedt.2018.08.014>
- Roddy, C., Amiet, D. L., Chung, J., Holt, C., Shaw, L., McKenzie, S., Garivaldis, F., Lodge, J. M., & Mundy, M. E. (2017). Applying best practice online learning, teaching, and support to intensive online environments: An integrative review. *Frontiers in Education*, 2(59), 1–10. <https://doi.org/10.3389/feeduc.2017.00059>
- Ruey, S. (2010). A case study of constructivist instructional strategies for adult online learning. *British Journal of Educational Technology*, 41(5), 706–720. <https://doi.org/10.1111/j.1467-8535.2009.00965.x>
- Schommer, M. (1994). Synthesizing epistemological belief research: Tentative understandings and provocative confusions. *Educational Psychology Review*, 6(4), 293–319. <https://doi.org/10.1007/BF02213418>
- Schussler, D. L., Stooksberry, L. M., & Bercaw, L. A. (2010). Understanding teacher candidate dispositions: Reflecting to build self-awareness. *Journal of Teacher Education*, 61(4), 350–363. <https://doi.org/10.1177%2F0022487110371377>
- Seary, K., & Willans, J. (2020). Pastoral care and the caring teacher—Value adding to enabling education. *Student Success*, 11(1), 12–21. <https://doi.org/10.5204/ssj.v11i1.1456>
- Shea, P., & Bidjerano, T. (2010). Learning presence: Towards a theory of self-efficacy, self-regulation, and the development of a communities of inquiry in online and blended learning environments. *Computers & Education*, 55(4), 1721–1731. <https://doi.org/10.1016/j.compedu.2010.07.017>
- Stephen, D. E., O’Connell, P., & Hall, M. (2008). ‘Going the extra mile’, ‘fire-fighting’, or laissez-faire? Re-evaluating personal tutoring relationships within mass higher education. *Teaching in Higher Education*, 13(4), 449–460. <https://doi.org/10.1080/13562510802169749>
- Stone, C., & Springer, M. (2019, August). Interactivity, connectedness and “teacher-presence”: Engaging and retaining students online. *Australian Journal of Adult Learning*, 59(2), 146–169. <https://search.informit.org/doi/https://doi.org/10.3316/aeipt.224048>
- Tinto, V. (2001). Rethinking the first year of college. *Higher Education Monograph Series*, Syracuse University, 9(2), 1–8. <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.594.7760&rep=rep1&type=pdf>
- Yang, Y., & Cornelius, L. F. (2004). Students’ perceptions towards the quality of online education: A qualitative approach. *Association for Educational Communications and Technology*, 861–877. <https://files.eric.ed.gov/fulltext/ED485012.pdf>

Chapter 16

Supporting Blended Learners in the New Normal



Tracy Douglas  and Jamie Chapman

Abstract Due to COVID-19, university teachers globally have suddenly been required to adapt to teach through blended learning, with increased online activities. Indications are that blended learning will continue to be prominent post-COVID and become the ‘new norm’ with respect to higher education. Due to the limited experience of online or blended learning prior to COVID-19, teachers and universities commonly modelled their blended teaching on the form of teaching they were familiar with—their on-campus teaching. Historically, the 50-min lecture, the core of on-campus teaching, was the principal activity of blended teaching. When delivering content online, however, this lecture format had to be re-imagined. The model derived in Chap. 14, establishes that for the support in an online environment to be optimised, four equally important pedagogical elements need to be present, and of high quality. This chapter, therefore, presents a case study of a blended learning, introductory-level, anatomy and physiology course taught by award-winning teachers using a flipped classroom model. All four pedagogical elements in this course were of high quality and involved integration between online components and face-to-face classes. Each of the four elements is illustrated in sufficient detail to provide a model for other teachers to follow in adapting to blended learning using a flipped classroom approach. The illustrations of the pedagogical elements draw on examples from the learning management system (LMS), face-to-face classes, synchronous and asynchronous activities and student feedback (please note that in some student feedback, students refer to a unit which is the nomenclature used for a subject at our institution).

T. Douglas (✉)

School of Health Sciences, College of Health and Medicine, University of Tasmania, Launceston, Australia

e-mail: t.douglas@utas.edu.au

J. Chapman

Tasmanian School of Medicine, College of Health and Medicine, University of Tasmania, Hobart, Australia

e-mail: jamie.chapman@utas.edu.au

16.1 Introduction

Chapter 14 presented research evidence for a model of how the teacher can provide support to online learners through four high quality pedagogical elements: well-organised high-quality learning materials; bite-size videos; discussion forums to promote student–student and teacher-student interactions; and, teacher-student interaction via email, phone and online communication platforms. Chapter 15 substantiated and illustrated the model by drawing on feedback from students in subjects offered online. This chapter is also framed by the model in Chap. 14 and uses a similar approach to that of Chap. 15.

This chapter deals specifically with blended learning, in which most of the core content, learning materials, and some activities are online and face-to-face classes are utilised for teacher-student exchanges. These classes are for direct interaction between students and teachers, laboratory work, and active learning activities. They are definitely not for lectures! This chapter showcases how the disciplines of anatomy and physiology were taught to a range of undergraduate health, education, and science students in blended learning introductory subjects offered across three campuses in a range of degrees using a flipped classroom approach.

The anatomy and physiology subject featured all four of the pedagogical elements of the model in Chap. 14. The subject also had face-to-face classes, which took a flipped classroom approach. As the face-to-face classes were closely integrated with the four online pedagogical elements, this can be envisaged as an expansion of the model in Chap. 14, to focus specifically on blended learning.

16.2 Flipped Classroom Approach

Anatomy and physiology are core subjects in many undergraduate health degrees that are often challenging for students (Gultice et al., 2015; Rather et al., 2013; Vitali et al., 2020). Traditionally these subjects are taught as a didactic lecture-focused pedagogy supported by practical/laboratory and tutorial sessions. To consolidate teaching of anatomy and physiology at our institution, we mapped five existing subjects and combined them into two consolidated cross-campus subjects—Human Anatomy & Physiology 1A (HAP1A—Semester 1) and Human Anatomy & Physiology 1B (HAP1B—Semester 2). An outcome of this consolidation was to develop and introduce these subjects in a flipped classroom model, in what we called our “2-2-2 model”: consisting of 2 h of online content, supported by 2 h of active learning workshop, and 2 h of practical/laboratory/tutorial per week (Chapman et al., 2018). To enable this curriculum re-design, we utilized our shared expertise as part of a national project to enable educators in health sciences to develop effective flipped learning approaches (Karanicolas et al., 2019).

Flipped classrooms are known to foster student engagement (Moffett & Mill, 2014; Zheng & Zhang, 2020). Blended learning using a flipped classroom approach

takes advantage of the strengths of both online learning and face-to-face or on-campus teaching and learning and can be an effective pedagogy (Meng et al., 2022), particularly for subjects like anatomy and physiology which, as mentioned above, students often find difficult (Cheung et al., 2021; Joseph et al., 2021). Student engagement can be enhanced when a flipped classroom pedagogy enables a shift from passive learning to active blended learning (Freeman et al., 2014; El Sadik & Al Abdulmonem, 2021). Interaction with peers, teacher facilitation, classroom participation, and design of learning materials that are mindful of reducing cognitive load, are key to the successful implementation of a flipped classroom (Cho et al., 2021). Flipping the classroom enables collaborative learning in face-to-face activities (Tucker, 2012) and improves academic performance (even when students are not necessarily aware of it, e.g., see Deslauriers et al., 2019), as well as increasing student and staff satisfaction (O’Flaherty & Phillips, 2015). In a flipped model, online learning is restricted to the presentation of the core “lecture” content, housing of supporting learning materials, and for asynchronous communication between peers and between students and staff. Staff can focus on preparing high quality learning materials, utilizing a variety of media and drawing on available learning resources.

Students can study the online core content at times and locations convenient to them, referred to as ubiquitous learning or u-learning (Hwang et al., 2008; Suartama et al., 2020), or anytime, anywhere learning (Du et al., 2022; Green & Donovan, 2018). Importantly, however, online content is constructively aligned with related on-campus activities (Tucker, 2012). On-campus or face-to-face classes (which can be synchronized online sessions) are utilized for direct exchanges between teachers and students, and between students, in meaningful learning activities. Students have opportunities to interact with their peers in group work, as well as with teaching staff, in active learning workshops, practical/laboratory classes and/or tutorial sessions held on campus.

We have face-to-face at many workshops but we don’t have face-to-face lectures except one in the week one. I can know other students, so the practical sessions, the practice, and also in the actual learning workshop. (HAP1A student)

We don’t have large lectures per se, like the old school where the students show up and the lecturer just stands there for a couple of hours and bestows the wisdom and whatnot. What actually happens in reality with this subject, the information that we are to learn in the week to come is released on MyLO, which is our online system, our online university interface. So, information gets released into MyLO, and that’s what we need to familiarise ourselves with prior to our face-to-face. (HAP1A student)

Introducing a flipped classroom approach can be challenging to new students as it enables student-centered learning in first year when most undergraduates are usually more familiar with teacher-centered learning in their prior education (Al-balushi et al., 2020; Tsai, 2002). A student-centered approach enhances cooperative learning and enables students to develop problem-solving and critical thinking skills; the role of the teacher, however, is still important, particularly at the introductory level (Serin, 2018). Passive learning is not conducive to students developing and understanding knowledge that forms the foundation of their latter studies. In the project reported

here, we designed our subjects to motivate students to engage with online content and then created teacher-led opportunities for students to discuss and apply their knowledge actively with teachers and peers, enabling them to develop key graduate attributes.

To facilitate and support student learning in the flipped framework we acknowledge and introduce the science of learning (Mayer, 2010) and evidence-based effective study methods (Sumeracki & Weinstein, 2018; Weinstein et al., 2019). We describe these effective learning strategies in the first active learning workshops to make students aware of the different study strategies that they can utilize to engage in content and become active learners. We also describe how, if students follow the correct learning sequence (Online content→ Active Learning Workshop→ Practical/Laboratory/Tutorial activity), the subjects have in-built into their pedagogy, the effective learning strategy of spaced retrieval practice can occur (Jones, 2019, 2021a, 2021b; Lyle et al., 2020) and this is explained to students in the first week of the subjects. This is also supported by the presentation of our research on previous iterations of the subjects (Chapman et al., 2018) that demonstrated the importance of following the correct learning sequence for student success. Students are often unsure how to learn the detailed content in human anatomy and physiology but, through the flipped pedagogical approach, we designed opportunities to engage with the content in different formats to enhance student learning.

In the current model, described in this chapter, students in these subjects learn together on a weekly basis in active learning workshops run in a lecture theatre or online (e.g., Zoom; due to COVID-19 restrictions) and in practical/laboratory/tutorial sessions (team-based learning activities) in campus-based laboratories. These sessions are a key support to student learning, enabling first-year undergraduates to actively engage with staff and peers in real time and discuss and apply key concepts in their learning. This active learning is clearly linked to their core online learning and, following face-to-face classes, students are encouraged to continually utilize the online asynchronous discussion boards, email, and other platforms to stay connected with staff and each other.

16.3 Learning Materials

As identified in Chap. 14, there are three indicators for the successful delivery of learning materials in an online environment, which are also applicable to a flipped pedagogy. These are (i) organization of content, (ii) clear pathways through content, and (iii) a logical sequence of the content, learning materials, readings, and activities.

Our subjects focus on the anatomy and physiology of the human body and are organized to enable students to learn material in a scaffolded, sequential organization from chemicals to cells to tissues and then organs, organ systems, and the whole body. The content is organized into discrete modules for delivery but connections between modules are highlighted throughout both of these foundation year subjects (i.e. Human Anatomy & Physiology 1A (HAP1A—Semester 1) and Human

Anatomy & Physiology 1B (HAP1B—Semester 2) to consolidate learning of the human body as a whole organism.

Learning materials are delivered online within a weekly folder on the LMS as illustrated in Fig. 16.1 and released on the Wednesday/Thursday prior to each week. Each week's folder starts with a "To Do This Week" webpage, a brief/infographic highlighting key content to ensure that students are clear on the required weekly activities. It also, importantly, highlights and links to assessment tasks.

We refer to the core online "lecture" content as "Pre-Classes", to identify the need for students to engage with the online content prior to attending the synchronous online or face-to-face sessions. Learning of this content is then supported in the weekly Active Learning Workshop (ALW). Prior to the synchronous ALW, we release a "student version" of the PowerPoint (PPT) presentation used during the ALW—this provides a scaffolding document for students to take notes on, and complete tasks with, during the session. Following the ALW, we release the "complete" version of the PPT, and a link to the recording of the live session. Lastly, we upload the notes for the weekly practical/laboratory/tutorial session, which we call Team-Based Learning (TBL) activity, for students to download to their own mobile device or print and bring along to the on-campus session. To address the high absenteeism due to COVID-related illness, answers to the TBL tasks were released each week following the on-campus sessions. However, in a normal academic year, answers are not released to encourage students to attend and engage in peer-peer learning. The scaffolding of the online and on-campus sessions ensure that students learn and apply knowledge relevant to the foundations of anatomy and physiology.

As students complete each section, the content receives a "tick" so that students can track their progress through each week's content. Announcements are also used in the LMS on a weekly basis to enable students to focus on the key activities that they need to engage with each week.

...the organised weekly information allowed me to keep up to date with what needed to be completed each week (HAP1B student)

[Lecturer's] summaries and outlines were really clear and helpful, alongside the reminders assessments were due etc. I think he used MyLO really well & made it very clear what we had and when. (HAP1A student)

The to-do list for each week was the best thing I have ever had in a unit (subject). The layout is amazing and outlines exactly what needs to be done. Thank you! (HAP1A student)

See also the section headed Learning materials in Chap. 14.

16.4 Bite-Sized Videos

As outlined in Chap. 14, providing video content online in chunks enables student motivation to engage with the content, while also reducing intrinsic cognitive load (Guo et al., 2014; Mayer, 2009). In a large subject, student learning is diverse and

Example: Weekly Content Delivery: Week 4 (CZZ101)

An example weekly folder from week 4 in CZZ102 covering Module 2: Tissues content:

The screenshot shows a weekly folder structure with the following items:

- Week 4: To do this week** (Web Page [e] [f] [u]) ✓
- Module 2 - Week 4 Preclass Content**
 - PART 1: Tissues and Epithelial Tissue** (Web Page [e] [f] [u]) ✓
 - PART 2: Connective Tissue** (Web Page [e] [f] [u]) ✓
- Active Learning Workshop 4 - Epithelial and Connective Tissues**
 - ALW4_Students** (PDF document [f] [u]) ✓
 - ALW4_Complete** (PDF document [f] [u]) ✓
Starts 16 March, 2022 15:00
 - Recording of ALW4** (Link) ✓
- TBL3 - Cell Structure and Function**
 - TBL3_CellStructureFunction** (Word Document [f] [u]) ✓
 - TBL3_CellStructureFunction** (PDF document [f] [u]) ✓
 - TBL3_SupportingResources** (PDF document [f] [u]) ✓
 - CZZ101_TBL3_StartingQuiz** (PDF document [f] [u]) ✓
 - TBL3_CellStructureFunction_AnswerGuide** (PDF document [f] [u]) ✓

Fig. 16.1 Weekly content delivery

needs to be catered for to enable accessibility. In a flipped pedagogy, videos are an important tool to facilitate learning of key content online as part of a universal design for learning. Using bite-sized videos embedded with interactive activities enhances student learning. Captions are also being developed for videos to enhance accessibility as part of ongoing improvements for these resources. The embedded interactive activities within the online Pre-Classes provide instant feedback to students to ensure that they are grasping key concepts as they learn the content. These interactive activities use a variety of tools to pace student learning including formative quizzes (Nicol, 2007) and/or interactive H5P content (Rekhari & Sinnayah, 2018), while also giving students a feeling of competence, a factor important to help student motivation (Deci & Ryan, 2000, 2008). This is illustrated in Fig. 16.2.

Student feedback suggests that the format of the Pre-Class material supports student learning by enabling spaced practice, retrieval of information, elaboration, dual coding and concrete examples:

Pre content videos are great as you can go back and watch or rewind/stop to replay and have a better understanding. (HAPIA student)

[Lecturer's] online pre classes were really good, especially the ones with checkpoints and quizzes to make sure you understood the content. (HAPIA student)

The weekly MyLO content was great. It was great when there was options for either recorded lectures or the info presented as a webpage as we could choose what suited us and our style of learning best. (HAPIA student)

I did enjoy the online lectures that were broken up into 5–15 minute videos. It certainly was less intimidating seeing broken up small videos than 1–2 hour lectures. (HAPIA student)

See also the section headed *Bite-sized videos* in Chap. 14 which provides further information regarding the role of bite-sized videos to enable introduction of key content at a student-focused pace.

16.5 Student-Centred Active Learning

As mentioned, a well-established principle of student learning is that meaningful learning is promoted when students are actively engaged. This implies that teaching and learning should be student-centred. As noted above, in our re-design of anatomy and physiology, face-to-face classes are, therefore, used for active student activities—not passively listening to lectures or sitting in a classroom watching a video as part of a tutorial session. Student feedback indicated that our flipped approach, enables them to identify areas of content that they find difficult or confusing and ask questions as they develop their understanding of key concepts. This was accomplished in active learning workshops and practical activities.

Example: Bite-sized videos embedded into online content

A traditional 50 minute lecture can be divided into key parts that can be delivered in bite-sized videos with interactive activities online.

Example:

This online “Pre-class Lecture” is delivered as a stand-alone webpage housed within our LMS. It is presented as “bite-sized videos” consisting of “talking head” screen-captured PowerPoint videos with checkpoint H5P quizzes in between:

Part 1 - Introduction to Tissues

So, now that we know how cells work, we move to the next step in complexity of the human body - namely, the tissues. But how do these isolated cells form the more complex structures of tissues. Please watch the Part 1 video to find out.



Part 2 - Introduction to Epithelial Tissue

Terrific! Now that we know how cells form tissues and their broad functions, let's begin our journey into tissues by taking a look at our first - Epithelial Tissue. Please watch the Part 2 video:



What is the broad function of connective tissue?

- Movement
- Mechanical and nutritional support
- Control and coordination
- Covering surfaces

?

● ○ ○ ○ ○

Fig. 16.2 Bite-sized videos embedded into online content

Students are provided with PDF versions of the slides (whole slides and 3 slide notes) to take notes. This Pre-class consisted of six bite-sized videos with twenty formative questions interspersed in three HSP quizzes. The PPT slides used in the videos are designed following Mayer's Principles of Multimedia Learning (2009) with consideration towards reducing extraneous and intrinsic cognitive load. Although Mayer discourages use of the "talking head" type of videos, evidence from 6.9 million video watching sessions suggests that videos that contain an instructor's talking head are more engaging than slides alone (Guo, Kim and Rubin, 2014).

Fig. 16.2 (continued)

16.5.1 Active Learning Workshops (ALWs)

Within active learning workshops (ALWs), students are engaged through answering activity-based questions, reviewing case scenarios and receiving instant feedback on their learning by completing Kahoot quizzes. Students identify this ALW as an active learning session and appreciate the opportunity to engage with content, peers and lecturers:

We have interactive workshops with the lecturer, where it could be a lot of questions thrown in our direction. It's not a test. We don't get tested, but we have engaged with the subject. There's things like Cahoot. It's this app called Cahoot where it's like a game. Basically, there is a question that gets asked and people on their devices, their phones or their notebooks and whatnot. The question pops up on the screen, and then you get, for example, four choices of answers. And you pick the one that you think is right, like a multiple-choice question. Then we see how many people answered right, how many wrong. Then the lecturer explains, okay, "So this was the right answer because"—as opposed to "That one wasn't the right answer because of that". The lecture would actually go through each answer, the right one and the wrongs ones, and explain how they did, or not, with the question. Every hour we'll have a Cahoot session, of about five, or maybe sometimes six or so questions, in a question like that. So that's why it's called active learning workshop, where you come in already having pre-exposed ourselves to the subject for the week. And then we actually engage with the lecturer, and whatever are the things that he or she is interested to slot into that active learning workshop. So there is none of those old-style, where you sit there and take notes. And then once a week we also have a trial practical or tutorial session. (HAP1A student)

ALWs provide an opportunity for students to apply their knowledge of the core content in the subject. Core content, as mentioned, is provided as Pre-class online modules which students are expected to complete prior to attending the relevant ALW. The ALW gives students an opportunity to reinforce their learning by participating in the learning activities and identify their gaps in knowledge. Prior to 2020, ALWs were held in a large lecture theatre with up to 200 students in attendance. Since the impact of COVID-19, ALWs have been offered as a synchronous online session (e.g., offered on Zoom).

The sessions provide students with an opportunity to test their understanding of the online content and apply this content authentically and ask questions regarding the content. A recent improvement to these sessions is having two lecturers present; one to facilitate the session and one to answer questions via the Zoom Chat function.

This teaching approach is appreciated by students in terms of an enhanced teachers presence and ability to enhance feedback and student learning during the sessions:

Active learning workshop questions were very helpful, which are so much like the exam-style question and build on the knowledge from preclasses. (HAP1B student)

I found the Active Learning Workshops to be greatly helpful in this unit, which provided a valuable opportunity for participation and active engagement with anatomical & physiological concepts, given the transition to online learning. (HAP1B student)

Active learning workshops are very helpful to solidify knowledge - interesting content. (HAP1B student)

The weekly online Zoom revision sessions were helpful to integrate more important information into memory. (HAP1A student)

Having always two lecturers attend each ALW was terrific, they bounced off each other and supported great sessions that were quite captivating. (HAP1A student)

Also, I was very grateful for the way the staff, particularly [Lecturer] supported our learning by answering the chat in Zoom sessions. This reduced my reluctance to contribute or ask questions as it made it more 'real time' response. (HAP1A student)

The Kahoot quizzes embedded into the ALW activities are also always popular with students as they provide a fun learning tool which enables students to practice retrieval of knowledge and identify areas of content that they need to focus on. They also provide a competitive edge which is welcomed by some students.

The kahoots in particular really added a fun way to test my knowledge, and a way to motivate both myself and my friends to attend the lectures each week and learn the content (as a friendly competition). (HAP1B student)

The Kahoots also were a highlight of the unit, it made the unit work seem a little less intense and it helped with engaging with the class. (HAP1A student)

ALWs are a great learning environment - challenging and fun. (Kahoot forever!) (HAP1B student)

The weekly online ALWs were great and helped solidify knowledge - especially the kahoots. (HAP1A student)

Below are examples of ALWs that have been utilized; one in the on-campus format (Fig. 16.3) and one in the online format (Fig. 16.4). Both forms of ALWs provided opportunities for student-centred, active learning.

When COVID-19 affected the ability to teach on-campus in 2020, our teaching of ALWs as part of a flipped curriculum was reimagined to fit the online space. Initially using Collaborate and, more recently Zoom, embedded into the LMS of the subject, staff are able to actively engage students in activities using online tools such as Chat, Poll and breakout room functions in the Zoom platform. During the ALW, students are encouraged to answer and ask questions in the Chat tool. In Zoom, they are able to post their Chat to the whole class or privately to the teacher which provides a safe environment for students to actively engage and identify their gaps in knowledge.

Figure 16.4 illustrates an ALW which utilizes Chat and potentially breakout rooms to facilitate active learning in the online environment.

Students recognise the value of the active learning workshops to motivate them to engage with the weekly content and scaffold their learning:

Example: Active Learning Workshop (on-campus)

This face-to-face activity was held in a large teaching space with the entire cohort of students in the subject on a particular campus.

A power point presentation style is used in which a number of activities are embedded into the presentation for students to work through during the two-hour workshop. Throughout the workshop, Kahoot quizzes are embedded to enhance student engagement and learning.

Example: Cytoskeleton and Cell Division Active Learning Workshop

The first slide of the power point presentation identifies the learning objectives for the session which are constructively aligned to the intended learning outcomes of the unit.

Activities embedded in the unit are then presented one by one and students are given a few minutes to work on the activity, discussing it with their peers and asking the lecturer questions as necessary. Each activity is then discussed as a whole group before moving to the next activity. Activities are scaffolded to enable students to reflect and build on their existing knowledge.

Examples of activities in this workshop related to the Cytoskeleton:

- 1) *In a few dot points, describe the cytoskeleton and its role in the cell.*
- 2) *Concept map – Link the following terms with a line and a few words to describe their relationship (note – there are lots of correct ways to do this).*

The terms provided were *actin, tubulin, polymer, microtubules, cytoskeleton, intermediate filaments, motor protein, myosin, microfilaments*. Terms were supplied scattered on the power point slide.

- 3) *Use your understanding of the cytoskeleton and motor proteins to explain why mutations in dynein could result in recurring respiratory infections.*

A Kahoot quiz on the Cytoskeleton is then conducted with the whole class encouraged to participate. Students may participate in pairs or individually and the teacher engages with the class throughout the quiz to ensure that students understand answers to questions as they are presented. The leaderboard is presented after each question to encourage students and provide a fun environment for the activity.

Following the Kahoot quiz, a 10-minute break is provided and then students return to the teaching space to complete activities on Cell Division followed by another Kahoot quiz to complete the active learning workshop.

Fig. 16.3 Student active learning in the form of a workshop

The active learning workshops are a really good component of this unit, and allow the consolidation of knowledge from the pre-class content and work the information into problems. (HAP1A student)

The ALWs were a great way to revise the content that was given in that week and a nice way to start revision for exams without even realising. (HAP1B student)

The ALWs were great for revising the content of the short lectures. (HAP1A student)

Example: Active Learning Workshop (online)

This synchronous online activity was held online in Zoom with the entire cohort of students in the unit.

A PowerPoint presentation was shared with the students throughout the session. Embedded within this presentation were a number of activities for the students to complete. Kahoot quizzes are embedded into the workshop to enhance student learning.

Example: Endocrine System

The power point presentation begins with a review of nervous system and endocrine control in which students are asked to think about the following statement: ***Nerves and Glands have the same function in the human body.*** They are encouraged to post into the Chat box any ideas that they have in relation to this statement. After a few minutes the teacher discusses the statement with the students referring to the comments in the Chat and revealing key points in a power point slide.

Activities are then presented individually and students are given a few minutes to work on the activity, posting answers into the Chat. Each activity is then discussed as a whole group within the power point presentation before moving to the next activity. Activities are scaffolded to enable students to reflect and build on their existing knowledge.

Examples of activities in this workshop related to the Cytoskeleton:

- 1) *Compare how insulin (a peptide hormone) and aldosterone (a steroid hormone): a) are transported from their site of release and b) interact with target cell and cause a cellular effect.*
- 2) *Describe THREE (3) types of stimuli which control the release of hormones from endocrine glands and briefly discuss how hormone levels are regulated.*
- 3) *Hypothyroidism is prevalent in parts of Tasmania and other populations where the soil is iodine deficient. Based on your knowledge of thyroid hormones, discuss.*
- 4) *Students are provided with a handout which details the activities in the day of Larissa, a nursing student.*

Activity 1: a) Review Larissa's Day (Handout provided) and plot her glucose levels on the graph provided. b) Discuss how Larissa's hormones and activity influence her blood glucose levels.

Activity 2: a) Discuss the roles of glucagon and insulin during Larissa's day. B) Explain why catecholamines are released during Larissa's day. Identify other hormones which may be released as Larissa's final exams approach.

Activities 3) and 4) can be conducted using breakout rooms if time allows and the cohort are conducive to the use of breakout rooms.

Two Kahoot quizzes on the Endocrine System are embedded into the ALW with the whole class encouraged to participate. The teacher engages with the class throughout the quiz to ensure that students understand answers to questions as they are presented. The leaderboard is presented after each question to encourage students and provide a fun environment for the activity.

Following the first Kahoot quiz, a 10-minute break is provided and then students return to the online teaching space to complete activities followed by the second Kahoot quiz to complete the active learning workshop.

Fig. 16.4 Online workshop

Example: Using the Poll function in an ALW

The following Poll activity is implemented in a Cardiovascular System ALW session online in Zoom.

1) *If an individual becomes dehydrated, what will happen to the hydrostatic pressure?*

- *Decrease*
- *Increase*
- *Stay the same*

2) *If an individual becomes dehydrate, what will happen to the osmotic pressure?*

- *Decrease*
- *Increase*
- *Stay the same*

3) *If an individual becomes dehydrate, what will happen to the filtration pressure?*

- *Decrease*
- *Increase*
- *Stay the same*

Once the Poll has been answered by the students, the Poll is closed, and the results are discussed with the students as well as the correct answers to the questions to enhance student knowledge of this key concept.

Fig. 16.5 Example of the Poll function in an ALW

The use of the Poll function in a synchronous online teaching forum provides an opportunity for all students to engage in answering a live question anonymously. Some students are reluctant to post to the Chat or participate actively in breakout room and so a Poll can be used to hopefully engage these students. In a typical ALW, using the Poll function, 95% of attending students participate in the Poll.

Poll functions can also be successfully embedded into an ALW as shown by the following example which we currently use in Zoom (Fig. 16.5).

16.5.2 Practical/Laboratory Sessions

In on-campus practical classes, students participate in hands-on activities to reinforce their learning of key concepts. These activities promote team-based active learning, encouraging students to collaborate and discuss tasks as a group, and are designed to suit a range of different learning styles as part of a blended learning environment (Hui et al., 2008). These practical sessions often incorporate tutorials in which short-answer type questions are discussed in a face-to-face environment. Recently, we renamed these sessions as Team-Based Learning (TBL) activities to overtly encourage students to engage in small group peer learning in the active on-campus activities rather than working in isolation on activities. While not strictly

following the strict TBL style (e.g., as described in Burgess et al., 2020), in our TBL sessions students form small teams (typically 3–4 students) and work together on the presented activities. Teams are encouraged to contribute to end of class whole of group discussions, as well throughout the class. Active learning with peers is known to stimulate mental development (Eagleton, 2015). The focus on active learning rather than passive learning is continually promoted in these sessions to shift from a teacher-focused paradigm to one that is empowered by the students (Fig. 16.6).

Providing students with opportunities to extend and apply their knowledge and skills is positively received as it enhances their learning of key concepts, enables the to identify gaps in their knowledge and it enables peer learning:

The Lt anatomy practicals were amazing for learning the structure of each of the system. They were informative and interactive so students could get the best out of their learning. (HAP1A student)

The online practicals are also very useful and helpful to understand things we might have missed in the lecture content. (HAP1A student)

The practical classes were very helpful as they enabled discussions about the learning objectives. (HAP1A student)

Example: Practical Session

This face-to-face activity is held in a physiology or anatomy laboratory and will be one or two hours in length depending on the session. If the practical is only one hour it is followed by a one-hour tutorial session in which student discuss questions in which they need to apply conceptual knowledge. Class sizes are up to 60 students for each practical session with at least two tutors facilitating the session. Students are required to complete a compulsory workplace health and safety quiz prior to attendance.

A set of practical notes are provided for the student to download and refer to while in the laboratory setting. Students are encouraged to work in small groups during the practical session and engage with teaching staff as they complete the various activities.

Example: Introduction to Histology and Cell Biology Practical

During this practical session, students acquire skills essential to the correct use of a light microscope and prepare a section of tissue for observation under the microscope. They also view prepared slides of human tissue under the light microscope to further refine their practical skills of microscopy and their knowledge of cells.

Throughout the practical session students are also able to practice their use of anatomical terminology and answer a number of questions to extend their existing knowledge of cells and tissues in the human body. Students are encouraged to discuss questions in their small groups (typically 2-4 students) and consult with teaching staff as required.

This practical is designed to help students to integrate theoretical information that they have engaged with online with the practical skills they are performing in the laboratory. Activities and questions towards the end of the practical enable students to develop a basic understanding of the discipline of histology.

Fig. 16.6 Practical session

As mentioned, in 2022, practical sessions were re-badged as team-based learning (TBL) activities to encourage students to engage in peer learning in the sessions on-campus. As students spend a lot of time studying online, we observed how they had become increasingly disengaged from their peers. We believe the on-campus sessions are important for students to build peer networks and learn how to work in a team.

In Fig. 16.7, we provide an example of a TBL session designed to engage students in active learning using student–teacher exchanges as well as peer-peer learning opportunities.

This TBL session is designed to help students to integrate online theoretical information with the fun practical activities they are performing in the laboratory. Throughout the session, tutors discuss the answers to embedded questions within the activities with the students. The session is always enjoyed by the students and consolidates their understanding of key nervous system concepts in the example in Fig. 16.7.

Students are positive about the learning experience provided by on-campus team-based learning sessions to enable their consolidation of key content:

The team based learning is the best as you can ask questions and get actually educated after trying to digest all the information for the content. (HAP1A student)

The TBL's were a great source of knowledge and helped to cement ideas. (HAP1A student)

16.6 Discussion Forums

Online discussion boards can effectively engage students as an asynchronous communication tool (Douglas et al., 2015). These discussion boards can provide an avenue for students to ask questions in a timely manner relating to the content, specific assessment tasks, and challenges and issues. They can also be used by students as a tool to discuss content and share learning resource links with peers. The teacher presence in discussion board exchanges is imperative to student satisfaction with learning online (Douglas et al., 2020; Ladyshevsky, 2013).

In our two re-designed first year subjects, online discussion boards are an important asynchronous communication tool as the core content of the subjects is delivered online in a series of modules each week. As mentioned, the modules within the subject are set up to provide core content in a variety of formats with embedded formative quizzes. Each module has a designated content discussion board named to motivate students to post to the board (Fig. 16.8).

Of interest to the teachers of this subject, is the ability for the online content and the discussion boards to support student learning of concepts, that are often perceived as difficult, while providing personalized academic support to individual students. In addition, the discussion boards, and other forms of online communication, such as email and Zoom, provide a conduit between the core content online and the applied learning delivered in the face-to-face activities on campus. Our initial goal in

Example: Team-Based Learning (TBL) Session

This face-to-face activity is held in a physiology or anatomy laboratory and is two hours in length. Class sizes are up to 60 students for each practical session with two tutors facilitating the session. Students are required to complete a compulsory workplace health and safety quiz prior to attendance.

TBL activities are provided for the student to download and refer to while in the laboratory setting. Students are encouraged to work in small groups (teams) during the practical session and engage with teaching staff as they complete the various activities.

Example: Sensory Perception and Reflexes

During this TBL session, students work in teams to enhance their learning of sensory receptors and sensory pathways and engage in activities involving reflexes and sensory perception. They also discuss a case scenario to apply their knowledge of sensory and motor function.

The activities in the session include:

Exercise 1: Somatic sensation – sensing temperature and touch.

In their teams, students perform a number of activities exploring temperature, touch and pressure receptors on the skin.

Exercise 2: Vision

In their teams, students explore pupil reactions to light and accommodation of the lens in the eye by performing activities using one member of their team as a subject.

Exercise 3: Simple stretch reflexes

In teams, students perform simple stretch reflexes (i.e., knee jerk and ankle jerk) on one another and explore the effects of isometric exercise and mental arithmetic on the reflexes.

Exercise 4: Case scenario

Students are provided with a case scenario that integrates concepts in pain, sensory pathways, immunity and reflexes for them to discuss in their teams.

Exercise 5: At Home Activity (option) – Gustation (taste).

Due to current COVID restrictions, this final exercise is not performed on campus but students are encourage to complete the exercise at home. Students are provided with information to enable them to test their taste sensations at home using some readily available substances in their home (ie salt, sugar, tonic water and vinegar) and using a cotton bud determining the mapping of taste receptors on their tongue.

Fig. 16.7 Team-based learning session

providing these forms of communication during COVID-19 was to enable students to feel well supported and less isolated as they grasp difficult concepts in anatomy and physiology. We continued this blended learning approach in our return to campus-based teaching.

An example of a discussion post exchange between a teacher and student is provided below (Fig. 16.9).

Note how the student appears as “anonymous”. We allow anonymous posting to promote engagement—previous attempts at engaging students in discussions on

Example: Content Discussion Board

Rather than using the module name for the name of a relevant content discussion board, content discussion boards are named and described to motivate student engagement.

For example, our Digestive System discussion board is named and described as follows:

Name:

Digesting your way through CZZ102

Description:

Are you intrigued by the fact that we ingest nutrients in a very different form to what is utilised in our cells to function effectively? Did you ever wonder why the human intestines are so long or why we secrete saliva? Do you ever wonder why your stomach makes funny noises sometimes? These questions and more can be answered in the Digestive System module. Ask us any questions that you have pondered about in relation to eating and digestion.

Students can post any questions and answer any questions about the Digestive module in this discussion board.

Fig. 16.8 Discussion board on digestion

The screenshot shows a discussion board interface. At the top, there is a navigation bar with links for Unit Home, Content, Communication, Assessments, Grades, Groups, Classlist, Admin & Help, and SHS MyLO Staff Guides. Below this is a search bar and a 'Discussions List' section. The main topic is 'Luteal and Secretory phase', posted by an anonymous user on 21 August, 2020. The post text reads: 'Hi there, I am unsure of how to answer the following question, I am just a little confused as to what it is asking. During the luteal phase of the ovarian cycle, the corpus luteum secretes oestrogens and progesterone. Explain the stimulatory and inhibitory functions of these two hormones during the luteal phase of the ovarian cycle and the secretory phase of the uterine cycle. Thanks'. A reply from Tracy Douglas, dated 21 August, 2020, provides an answer: 'It is asking you to identify the effects of oestrogens and progesterone during these phases of the cycle. For example, during the secretory phase progesterone stimulates the endometrial glands while inhibiting the hypothalamus and anterior pituitary to ensure that low levels of FSH and LH are secreted. Does this help? Cheers, Tracy.' A second anonymous reply from 22 August, 2020, says 'Yes, thank you Tracy'. The interface includes filters for 'All Posts' and 'Clear filters', a 'Show' dropdown set to 'Threaded', and a pagination indicator showing '1 / 1'.

Fig. 16.9 Example of an exchange of discussion posts

Example: Assessment Queries

- 1) Develop a Discussion Board and set it to open when assignment details are released to students.

Example: *Assessment Task 3: Laboratory Report*

- 2) Provide a descriptor of this discussion board

Example: *Post any queries you have concerning the Muscle Contraction report here*

- 3) Encourage students to post to the Discussion Board (you may choose to enable to students to post anonymously).

- 4) Ensure that you have notifications set so that you can receive an alert whenever a student posts to the discussion board enabling you to respond promptly.

Fig. 16.10 Discussion forum for assessment

social media, for example, have often failed due to the lack of anonymity and concern by students of being “shamed” (Border et al., 2019; El Bialy & Jalali, 2015; Guckian et al., 2019; Hennessy, 2017). Close monitoring of the posts by the teachers enables robust moderation.

Students who actively engage in the discussion boards, however, do find them beneficial to their learning and understanding of assessment requirements:

In the discussion board I think we really used it to ask some questions about assignments. (HAP1A student)

Thanks for answering my questions in the discussion boards promptly. Most helpful. (HAP1B student)

Online discussion boards can easily be set up to target specific discussions or queries from students as in the example in Fig. 16.10.

In situations where students are looking for resources to practice answering questions for key assessment tasks such as exams, discussion board posts can provide revision questions and stimulate student discussion (Fig. 16.11). Making these questions as authentic as possible can enhance student engagement.

Students who engage with guided questions on the discussion boards noted how they enhanced their disciplinary knowledge in the subject:

Thanks for posting the Review questions. I really enjoy them and they definitely make me think more about the content. (HAP1B student)

Discussion boards can also be used to share resources with students (Fig. 16.12). Resource links can be posted by teaching staff as well as students to stimulate and enhance student learning. An example of a teacher sharing a resource is provided below:

See also the section headed Discussion in Chap. 14.

Example: Using Online Discussion Boards for Revision

In an online discussion board that is set up for discussion related to content, you can post a question that enables students to apply knowledge. This can be viewed as a practice question similar to what will be used in their exam.

Example: Revision Question for the Mid-Semester Exam

The following is posted to the Respiratory System Content Discussion (Feeling out of Breath?).
As you prepare for the Week 7 mid-semester exam, consider the following:

Jessica Stenson (AUS) won the 2022 Commonwealth games marathon. After the marathon, Jessica was out of breath and excited to win the gold medal.

During Jessica's race, explain:

- a) what respiratory muscles would be activated to enhance her ventilation;*
- b) the effect of increased pCO₂ levels (due to increased metabolism) on her breathing rate and the offloading of oxygen at her working tissues;*
- c) how any resistance within her airways could affect her breathing.*

After Jessica's race, her heart rate and breathing rate were still increased for a period of time. Why didn't Jessica's breathing rate and heart rate return to normal resting levels immediately after the race?

Students may post answers to this question and the teacher can provide feedback on any answers posted.

Fig. 16.11 Discussion board for revision



Fig. 16.12 Discussion board for sharing resources

16.7 Teacher-Student Exchanges

To enable effective teacher-student exchanges, lecturers and tutors must be approachable both online and on-campus (if applicable). Providing a safe, warm and respectful environment is one of the key concepts in promoting student self-determined motivation (Ryan & Deci, 2000). In addition, staff need to respond promptly to student queries. As students learn all core content online in these subjects, it is imperative that teaching staff are available to support students, if, and when required. Support from teachers through teacher-student exchanges can occur in a variety of ways as

described in Chap. 15 and in a flipped pedagogy, on-campus interactions as well as online interactions are important. In our subjects, students are encouraged to use discussion boards, but many prefer to email staff to ask questions regarding subject content or assessment tasks. Staff, in turn, are prompt to reply to student queries to provide individualized student support through any platform utilized by the students:

If you need any support, you can email, you can Skype, or use any of those platforms, or your educator. ... I never felt alone. It was so fantastic. (HAPIA student)

Lecturer and Tutor were, would always reply. (HAPIA student)

Whenever I emailed [Lecturer], she was always answered my emails within half an hour, and whenever I have anything going on in my mind, if I had any questions or any hardship I always just ask her. (HAPIA student)

In our subjects, we subscribe to discussion boards and monitor email frequently to enable timely responses to students. Students are invited to communicate with staff to inform their learning and can make appointments to discuss assessment results or content with individual staff members. In ALWs and on-campus teaching sessions we communicate with students and offer ongoing support in their learning. Evaluations from student indicate that they appreciate the timeliness of communications with teaching staff:

There are a lot of strengths, most salient include: an obvious presence of support from staff members on Mylo and email for any concerns or clarification. (HAPIA student)

Teachers are all amazing, communication is high and any concerns are quickly addressed no matter whether they are through discussion boards or personal emails. (HAPIB student)

Refer to the section; Teacher disposition in Chap. 14 regarding further strategies in teacher responsiveness and approachability.

It is recognized that students can feel isolated taking in so much content online and so interactive activities are built into the online content as much as possible. Although the students cannot interact synchronously online while working through the content, they can utilize the discussion boards as they work through the modules, answering guided questions related to the content that they are studying (Fig. 16.13). Formative assessment embedded within the online content enables students to get instant feedback regarding their learning. As a HAPIA student below observed, asking questions regarding key assessment tasks supported community building:

I found that if I really needed to ask any questions or if I wanted to find out if anyone else was having trouble with the same things I was, it was really nice to get in touch with everyone. So it's nice to have a forum where everyone can talk to each other without necessarily knowing each other. Just the fact that we have the same goals in common and that we need to finish and get rid of it, the course sort of thing. (HAPIA student)

Discussion board design for asynchronous discussion of content is illustrated in Fig. 16.13 which enables students to post questions about content in a safe online environment.

Example: Content Queries

- 1) Develop a Discussion Forum titled: **Subject Content Discussions**

- 2) Provide a descriptor of this discussion forum

Example:

This is where you can actively engage in online discussion of the subject content

- 3) Develop Discussion Boards within this forum linked to modules in the subject

Example: **Let's Talk about Cells**

- 4) Post to this discussion board to start student discussions

Example:

Hopefully you are enjoying your first module on Cells. Cells are quite fascinating as the living building blocks of the human body and I encourage you to engage in this Discussion topic to enhance your knowledge of Cells.

So far you have been looking at cell structure and function and we have covered a lot of material. I was wondering if you had a favourite cell structure or function that we have so far covered in the module?

For example, Do you have a favourite organelle? For me, I have always been fascinated by the mitochondria which is the site of the amazing metabolic reactions to provide cellular energy; ATP for cells. I find it amazing how active these well-designed organelles are to continually utilise substrates to generate energy. Mitochondria even have their own DNA to enable them to produce their own proteins.

What have you enjoyed learning about so far in CZZ101 Cells?

Do you have any website links that you have found useful to reinforce your learning?

Do you have any questions about Cells?

You may post anonymously if you wish - I look forward to reading your posts.

- 5) Encourage students to post to the Discussion Board (you may choose to enable to students to post anonymously) to “talk” and ask questions about cells

- 6) Ensure that you have notifications set so that you can receive an alert whenever a student posts to the discussion board enabling you to respond promptly

Fig. 16.13 Discussion of content

Example: Guided Question

- 1) Post to a relevant content Discussion Board

Example: Blood pressure review question

As you prepare for the Week 7 mid-semester exam, consider the following:

Fred Kerley (USA) is the current 100m world champion and is about to start another 100m sprint. As he starts to run, explain the effect of the autonomic nervous system on his heart rate and blood pressure.

Explain how the baroreceptor reflex restores Fred's blood pressure to normal following the 100 m sprint. In your answer, highlight any hormones that may be involved.

- 2) Encourage students to answer the guided questions in the post and ask additional questions in their post to extend their learning of blood pressure
- 3) Ensure that you have notifications set so that you can receive an alert whenever a student posts to the discussion board enabling you to respond promptly

Fig. 16.14 Discussion posed around a question

Student learning is further enhanced by guided questions posted by lecturers into the Discussion boards as illustrated in Fig. 16.14. These enable students to practice retrieval of knowledge and apply and integrate knowledge.

See also the section headed Teacher-student exchanges in Chap. 14 which provides additional discussion regarding the importance of teacher-student interactions for student success.

16.8 Learning Community

Teaching difficult concepts, such as anatomy and physiology, to introductory level undergraduate students across health, education, and science disciplines and largely in an online environment, is challenging, but if integrated and constructively aligned with active learning in face-to-face activities, our experience is that students will engage, and learning is enhanced. As evident in the feedback above, our students value all interactions with teachers and their peers and, teachers and students recognize the value of multiple platforms to connect students with their learning and enable social as well as pastoral connections during their academic studies. Asynchronous discussion boards can help create learning communities and synchronous on-campus and online sessions provide important opportunities for students to engage in peer learning supported by their teachers. Student show appreciation of opportunities to connect both formally and informally:

I can know other students, so the practical sessions, the practice, and also in the actual learning workshop. ... I feel the connections between classmates and the lecturers and the tutors more closer than the study I took in China before. So I really enjoyed. (HAP1A student)

[Lecturer's] humorous yet informative approach to teaching physiology was super helpful and I really enjoyed learning from him. The practical supervisors were great and super enthusiastic. (HAP1A student)

I really liked the ALW and the TBL. It was good to be able to be interactive in both of those and was great to get questions answered by the teachers as well. (HAP1A student)

Through prompt responses from teaching staff in synchronous and asynchronous time and active participation of students in interactive online activities, student learning in core introductory subjects can be well supported in a blended subject. Online synchronous sessions can provide a sense of a learning community as staff work together to facilitate the session and answer student questions in a live forum. A learning community is also established when students attend the on-campus sessions to discuss content with teachers and peers and engage in active learning activities.

Since the impact of COVID-19, we have also been successfully implemented online Drop-in sessions in the subjects to assist students with content and queries regarding assessment tasks. These online Drop-in sessions facilitated by the subject coordinator or key academic for the assessment task were offered weekly when the subject was fully online due to COVID-19 restrictions and are offered at pinch-points of the subject in the blended format. Students are positive about these sessions as they are another opportunity to engage with teaching staff:

the teachers were very helpful in explaining what is needed for the areas and are always willing to give the needed hand when they can, and also helpful with sharing the knowledge. (HAP1B student)

The frequent tutorial drop-ins were a great way to ask questions especially in online learning. I find verbally communicating much easier as emails can be hard to articulate. (HAP1B student)

See also Chap. 15 regarding strategies to support students in online learning and Chap. 17, which refers to further information regarding peer student support and the formation of learning communities.

16.9 Summary of Chapter

This chapter has illustrated how core introductory subjects which cover challenging content can be delivered successfully in a blended format. Using a flipped classroom approach, core content can be delivered online incorporating interactive activities to enable students to engage with content and assess their learning simultaneously in a flexible and supportive learning environment. Learning materials can be provided in a variety of formats to enable student engagement and provide opportunities for students to identify concepts they find difficult.

Ensuring students engage in core content prior to attending synchronous active learning activities facilitated by teaching staff is critical to student success. We encourage our students to always engage in Pre-Classes before attending Active Learning Workshops (online) and Team-Based Learning sessions (in an on-campus laboratory). This facilitates effective learning that can be scaffolded within a subject and enable students to be prepared for assessments.

Using our approach, supported by effective student–teacher exchanges through discussion forums and other online forms of communication such as Drop-in sessions, enables students to feel part of a learning community. This is essential to any successful pedagogy.

In this digital age, as education moves away from the traditional didactic lecture, a flipped approach to teaching is appropriate in many disciplines and enables students to have flexibility in their learning. Students appreciate opportunities to engage with peers and teaching staff as they actively learn content. From our experience, we feel that the flipped classroom approach can provide a supportive mechanism for student retention and success.

References

- Al-Balushi, S. M., Ambusaidi, A. K., Al-Balushi, K. A., Al-Hajri, F. H., & Al-Sinani, M. S. (2020). Student-centred and teacher-centred science classrooms as visualized by science teachers and their supervisors. *Teaching and Teacher Education*, *89*, 103014.
- Border, S., Hennessy, C., & Pickering, J. (2019). The rapidly changing landscape of student social media use in anatomy education. *Anatomical Sciences Education*, *12*, 577–579.
- Burges, A., van Diggele, C., Roberts, C., & Mellis, C. (2020). Team-based learning: Design, facilitation and participation. *BMC Medical Education*, *20*(Suppl 2), 461.
- Chapman, J., Douglas, T., Choi-Lundberg, D. L., & Holloway, A. F. (2018). What happened? Lessons learned from introducing first-year cross-campus, consolidated Human Anatomy and Physiology (HAP) units. In *Teaching matters 2018*.
- Cheung, C. C., Bridges, S. M., & Tipoe, G. L. (2021). Why is anatomy difficult to learn? The implications for undergraduate medical curricula. *Anatomical Sciences Education*, *14*(6), 752–763.
- Cho, M. H., Park, S. W., & Lee, S. E. (2021). Student characteristics and learning and teaching factors predicting affective and motivational outcomes in flipped college classrooms. *Studies in Higher Education*, *46*(3), 509–522.
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*, 227–268.
- Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/psychologie Canadienne*, *49*, 182–185.
- Deslauriers, L., McCarty, L. S., Miller, K., & Kestin, G. (2019). Measuring actual learning versus feeling of learning in response to being actively engaged in the classroom. *Proceedings of the National Academy of Sciences*, *116*(39), 19251–19257.
- Douglas, T., Mather, C., Murray, S., Earwaker, L., James, A., Pittaway, J., Robards, B., & Salter, S. (2015). A comparison of undergraduate student experiences of assessed versus nonassessed participation in online asynchronous discussion groups: Lessons from a cross disciplinary study in health and sociology. In *ASCILITE 2015* (pp. 424–428).

- Douglas, T., James, A., Earwaker, L., Mather, C., & Murray, S. (2020). Online discussion boards: Improving practice and student engagement by harnessing facilitator perceptions. *Journal of University Teaching & Learning Practice*, 17(3), 7.
- Du, X., Zhang, M., Shelton, B. E., & Hung, J.-L. (2022). Learning anytime, anywhere: A spatio-temporal analysis for online learning. *Interactive Learning Environments*, 30(1), 34–48.
- Eagleton, S. (2015). An exploration of the factors that contribute to learning satisfaction of first-year anatomy and physiology students. *Advances in Physiology Education*, 39(3), 158–166.
- El Bialy, S., & Jalali, A. (2015). Go where the students are: A comparison of the use of social networking sites between medical students and medical educators. *JMIR Medical Education*, 1, e7.
- El Sadik, A., & Al Abdulmonem, W. (2021). Improvement in student performance and perceptions through a flipped anatomy classroom: Shifting from passive traditional to active blended learning. *Anatomical Sciences Education*, 14(4), 482–490.
- Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, 111(23), 8410–8415.
- Green, T. D., & Donovan, L.C. (2018). Learning anytime, anywhere through technology: Reconsidering Teaching and Learning for the iMaker Generation. In G. E. Hall, L. F. Quinn & D. M. Gollnick (Eds.), *The Wiley handbook of teaching and learning* (1st Edn.). John Wiley & Sons, Inc.
- Guckian, J., Leighton, J., Frearson, R., Delgaty, L., Finn, G., & Matthan, J. (2019). The next generation: How medical students use new social media to support their learning. *MedEdPublish*, 8, 227.
- Gultice, A., Witham, A., & Kallmeyer, R. (2015). Are your students ready for anatomy and physiology? Developing tools to identify students at risk for failure. *Advances in Physiology Education*, 39, 108–115.
- Guo, P. J., Kim, J., & Rubin, R. (2014). How video production affects student engagement: An empirical study of MOOC videos. In *Proceedings of the first ACM conference on Learning @ scale conference* (pp. 41–50). Association for Computing Machinery.
- Hennessy, C. M. (2017). Lifting the negative cloud of social media use within medical education. *Anatomical Sciences Education*, 10, 98–99.
- Hui, W., Hu, P. H., Clark, T. H., Tam, K. Y., & Milton, J. (2008). Technology-assisted learning: A longitudinal field study of knowledge category, learning effectiveness and satisfaction in language learning. *Journal of Computer Assisted Learning*, 24(3), 245–259.
- Hwang, G.-J., Tsai, C.-C., & Yang, S. J. H. (2008). Criteria, strategies and research issues of context-aware ubiquitous learning. *Educational Technology & Society*, 11(2), 81–91.
- Jones, K. (2019). *Retrieval practice: Research & Resources for every classroom*. John Catt Educational Ltd.
- Jones, K. (2021a). *Retrieval practice: Resource guide*. John Catt Educational Ltd.
- Jones, K. (2021b). *Retrieval practice 2: Implementing, embedding & reflecting*. John Catt Educational Ltd.
- Joseph, M. A., Roach, E. J., Natarajan, J., Karkada, S., & Cayaban, A. R. R. (2021). Flipped classroom improves Omani nursing students performance and satisfaction in anatomy and physiology. *BMC Nursing*, 20(1), 1–10.
- Karanicolas, S., Snelling, C., Winning, R., Chapman, J., Williams, A. M., Douglas, M. T., Clarkson, G., Sita, J., Gibson, R., Ricci, M., Chittleborough, C., Strelan, P., Menicanin, D., Willison, J., Milazzo, A., Sabir, F., & Lee, M. I. (2019). Translating concept into practice: Enabling first-year health sciences teachers to blueprint effective flipped learning approaches. Retrieved January.
- Ladyshewsky, R. (2013). Instructor presence in online courses and student satisfaction. *The International Journal for the Scholarship of Teaching and Learning*, 7(1), 1–23.
- Lyle, K. B., Bego, C. R., Hopkins, R. F., Hieb, J. L., & Ralston, P. A. S. (2020). How the amount and spacing of retrieval practice affect the short- and long-term retention of mathematics knowledge. *Educational Psychology Review*, 32, 277–295.

- Mayer, R. E. (2009). *Multimedia learning* (2nd ed.). Cambridge University Press.
- Meng, X. H., Xu, X. Y., Chen, H. L., & Zhang, L. (2022). The effectiveness of combining e-learning, peer teaching, and flipped classroom for delivering a physiology laboratory course to nursing students. *Advances in Physiology Education*, *46*(1), 21–26.
- Mayer, R. E. (2010). Applying the science of learning to medical education. *Medical Education*, *44*(6), 543–549.
- Moffett, J., & Mill, A. C. (2014). Evaluation of the flipped classroom approach in a veterinary professional skills course. *Advances in Medical Education and Practice*, *5*, 415.
- Nicol, D. (2007). E-assessment by design: Using multiple-choice tests to good effect. *Journal of Further and Higher Education*, *31*(1), 53–64.
- O’Flaherty, J., & Phillips, C. (2015). The use of flipped classrooms in higher education: A scoping review. *The Internet and Higher Education*, *25*, 85–95.
- Rather, J. A., Hughes, D. L., & Schuijers, J. A. (2013). Redesigning a core first year physiology subject in allied health to achieve better learning outcomes. *International Journal of Innovation in Science and Mathematics Education*, *21*(2), 37–52.
- Rekhari, S., & Sinnayah, P. (2018). H5P and innovation in anatomy and physiology teaching. In *Research and development in higher education: [Re]valuing higher education: volume 41: Refereed papers from the 41st HERDSA Annual International Conference. 2–5 July 2018, Convention Centre, Adelaide* (Vol. 41, pp. 191–205). Higher Education Research and Development Society of Australasia.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development and well-being. *American Psychologist*, *55*, 68–78.
- Serin, H. (2018). A comparison of teacher-centered and student-centered approaches in educational settings. *International Journal of Social Sciences & Educational Studies*, *5*(1), 164–167.
- Suartama, I. K., Setyosari, P., Sulthoni, S., & Ulfa, S. (2020). Development of ubiquitous learning environment based on Moodle learning management system. *International Journal of Interactive Mobile Technologies*, *14*(14), 182–204.
- Sumeracki, M. A., & Weinstein, Y. (2018). Six strategies for effective learning. *Academic Medicine*, *93*(4), 666.
- Tsai, C. (2002). Nested epistemologies: Science teachers’ beliefs of teaching, learning and science. *International Journal of Science Education*, *24*(8), 771–783.
- Tucker, B. (2012). The flipped classroom. *Education next*, *12*(1), 82–83.
- Vitali, J., Blackmore, C., Mortazavi, S., & Anderton, R. (2020). Tertiary anatomy and physiology, a barrier for student success. *International Journal of Higher Education*, *9*(2), 289–296.
- Weinstein, Y., Sumeracki, M., & Caviglioli, O. (2019). *Understanding how we learn: A visual guide* (1st Edn.). Routledge.
- Zheng, B., & Zhang, Y. (2020). Self-regulated learning: The effect on medical student learning outcomes in a flipped classroom environment. *BMC Medical Education*, *20*(1), 1–7.

Chapter 17

Peer Student Support and the Formation of Learning Communities



Allison Trimble and Si Fan

Abstract Tinto's model of student social and academic integration highlights the dual contribution of teacher-student and student-student interaction to student success and retention. Apart from lecturer support, both existing literature and the current research has identified peer support as one of the significant sources of support for online students. This chapter focuses on the particular contribution of peer support in the online learning environment. It draws from interview data collected from online and blended learning students enrolled at one of the Australian universities with a contemporary model of admission. The evidence suggests that peer interaction can play an important role in establishing online student engagement and a sense of belonging, through the provision of informal academic, social and pastoral support. Effective online interactions between students can be developed by students themselves, as well as being facilitated by teachers through teaching strategies and the use of well-designed interactive tools. Interactions through online forums such as discussion boards were identified as a useful way to foster online student-student relationships. The establishment of supportive peer interactions between students studying online can contribute to the formation of online learning communities.

17.1 Introduction

The previous chapters proposed a model for a supportive learning environment that promotes and fosters the building of learning communities despite the absence of face-to-face interactions. Chapter 14 discussed the model's four key elements of high-quality online pedagogy, within which student-student and student-teacher interactions are an important part. The achievement of the four elements can lead to the formation of online learning communities, which are crucial for online students

A. Trimble (✉)
Launceston, Australia

S. Fan
University of Tasmania, Launceston, Tasmania, Australia
e-mail: si.fan@utas.edu.au

academic and social integration. Chapters 15 and 16 illustrated and substantiated what the key elements of the model can look like within online and blended learning environments, with empirical evidence from interviews with students and examples provided by teachers. These chapters highlighted the characteristics of online and blended teaching with optimized approaches for student support.

This chapter discusses the formation of online learning communities (OLCs) and the role of peer student interaction in this development. Based on interview data collected from online and blended learning students (see Chap. 1), this chapter provides evidence of online students mutually supporting each other in their learning environment, the influence of peer support on students' experiences in their online courses, as well as barriers to online community formation. It confirms the possibility of creating OLCs that support student learning and mitigate the feeling of loneliness resulting from the absence of face-to-face interactions. Further, the findings reveal the critical role played by online teachers in creating an environment that nurtures peer interactions and community formation.

17.2 Literature Review

The issue of high online student attrition rates is challenging for universities and students alike (Masika & Jones, 2016). Many studies have examined the internal and external factors that impact student retention in online courses (e.g. George et al., 2021; Kember & Ellis, 2022). Chapter 9 provides a review of the attrition literature, focusing on work relevant to the research in this book. Of particular interest to this chapter is the finding that a lack of peer interaction in the online environment is linked to student feelings of isolation, and that many students who withdraw from online study are alienated by the absence of the social experience of study (Eliasquevici et al., 2017; Gillett-Swan, 2017; Martin, 2020; Stone, 2019).

17.2.1 *The Constructivist Theory of Learning and Social Integration*

The constructivist approach to learning provides a useful lens through which to examine online student social integration (Gulati, 2004; Harris, 2003). In contrast to the behaviourist perspective, constructivism as a paradigm proposes that knowledge is socially constructed, and intimately related to the action and experience of the learner. Inherent within this approach is the belief that a process of active learning, in which students and teachers are active participants, builds knowledge through interaction (Covelli, 2017; George et al., 2021). The constructivist view of teaching

and learning is based on the sharing and negotiation of socially constituted knowledge, in which social interactions between students and their teachers, as well as their peers, play a key role.

As discussed in earlier chapters (particularly Chaps. 9, 14, 15, and 16), the concepts of academic and social integration are critical to a number of theoretical models of university student retention, including the model proposed in this book. The significant growth in online course offerings reveals the need for online students to have both social and academic integration, and the importance of having equivalent systematic support services to meet the needs of students learning online, as well as those studying on-campus.

However, translation of these types of programs and activities into the online environment, in which students are restricted to virtual contact, is far from straightforward. Recent student engagement frameworks discussed strategies to foster learning communities in online learning environments. An example is Rovai's (2003) composite persistence model for online education which is built on the earlier work of Tinto and others. It identifies matters impacting the retention of online students, including student characteristics and skills (prior-to-admission factors), as well as post-admission issues which may be external, such as family and employment situations, or internal pedagogical or academic factors (Eliasquevici et al., 2017; Nistor & Neubauer, 2010). Importantly, Rovai's model retained Tinto's concept of student academic and social integration (George et al., 2021). Adding to existing models, the model developed in this book (see Chap. 14) identifies and unpacks some key elements that are crucial in fostering online students' social integration and community formation, aiming for better online student experiences and retention.

17.2.2 Student Engagement, Belonging, and Loneliness

The direct impact of academic and social engagement on student success and achievement is widely recognised (Kahu, 2013; Shah & Cheng, 2019). While the concept of engagement is complex, there is a level of agreement within the literature regarding the socio-cultural, psychosocial and structural factors which may affect online students' engagement with their studies (Farrell & Brunton, 2020; Kember & Ellis, 2022; Shah & Cheng, 2019). In particular, it is suggested that a student's sense of belonging is closely associated with their engagement (Masika & Jones, 2016). In an educational context, a student's sense of belonging has been explained by Goodenow and Grady (1993, p. 25) as,

Being accepted, valued, included and encouraged by others (teachers and peers) in the academic classroom and the feeling oneself to be an important part of the life and activity of the class. More than simple perceived liking or warmth, it also involves support and respect for personal autonomy for the student as an individual.

Fetter, Sloep and Flores (2010) discussed ways to foster the social capital of a learning network, with creating a sense of belonging as one of the key strategies, along with

promoting the relationship characteristics within the network and fostering mutual support for group members. Similarly, in her 2012 report on higher education student retention and success in the United Kingdom, Thomas recognised ‘belonging’ as a key issue, closely related to the concepts of academic and social engagement. Thomas found that student belonging is advanced through a number of factors, including supportive peer interactions.

The literature strongly suggests that achievement of a sense of belonging is one of the most important factors enabling students to function successfully in all types of learning environments (Peacock & Cowan, 2019). The challenges of students connecting with their peers are exacerbated in online study in which there is, by definition, no in-person contact. Interactions are mediated by technology, and the reduced social and visual cues can result in online students feeling isolated and disconnected (Liu et al., 2007). The study by Rush (2015) identified isolation and disconnection as key indicators of online student dissatisfaction, strengthening the contention that the level of connectedness is critical to online student retention (Bawa, 2016; George et al., 2021; Rovai, 2003).

17.2.3 Online Learning Community

Communities are desirable, or even essential, in online learning environments (Fetter et al., 2010). Humans are social beings in nature. From a neuroscientific perspective, Pérez Sánchez et al. (2022) and Igel and Urquhart (2012) argue that social and group learning motivates students through stimulating the areas of the brain that produce dopamine and endorphin, both of which are associated with pleasure, and thereby achieve a pleasant and rewarding experience.

Research in relation to student need for connection in the online learning environment has primarily focussed on the development of online or virtual learning communities. These terms are used interchangeably within the literature. In this chapter reference is made to ‘online learning communities’ (OLCs). Feeling that they belong to an online community of learners has a significant positive impact on the learning experiences of online students (Farrell & Brunton, 2020; Harris, 2003). As observed by Liu and colleagues (2007), an OLC helps establish social connections, not only between online teachers and students, but also importantly between the students themselves, reducing their potential attrition rates. In this chapter, an OLC is considered to be,

A group of learners that interact in a common online environment to gain understanding of subject matter. Learners build on their knowledge by interacting with each other, their instructors and learning materials. By sharing a common learning goal and interacting socially over a period of time learners develop and share a sense of belonging and shared purpose. (Augar et al., 2004, p. 302)

A number of factors have been identified as foundational for establishing an OLC, including a shared goal, active student participation, collaborative learning, socially-constructed meaning, sharing of resources, teacher facilitation, and peer support (Augar et al., 2004; Bassani, 2011; Liu et al., 2007).

In his 2012 study, Galvin investigated the influence of peer support on students' learning experiences in online courses. He found that student interactions with their peers provided support in three different domains: academic, practical and emotional. These findings are to a large extent consistent with the areas of online student support identified in Chap. 12 of this book: academic, social and pastoral support.

17.2.4 Forms of Online Student Interaction

Martin and Bolliger (2018) suggest that student discussions and collaboration using digital communication tools are the most effective means for online learners to engage effectively with each other. Online learning typically provides students with synchronous, asynchronous, or blended modes of communication through which they can interact with each other, the teaching staff, and the learning content (Gillett-Swan, 2017; Lin & Gao, 2020). Synchronous online communication technologies such as videoconferencing, webinars, and chat rooms enable student interactions in real time. In contrast, online asynchronous platforms offer greater flexibility, as students are not required to be online at the same time and can engage at a time of their own choosing. Asynchronous online communication modes typically include emails, blogs, podcasts, a web-based Learning Management System, and online discussion boards (also called online forums) (Martin & Bolliger, 2018; Taylor-Guy & Chase, 2020). An online discussion board is a text-based, computer-mediated environment, usually facilitated by a teacher, which allows students to engage with others for practical, educational and social purposes (Griffin & Roy, 2022; Muir et al., 2020). The ways in which such digital tools can be utilised effectively by teachers in online and digital learning environments are described in detail in Chaps. 15 and 16. This chapter examines the use of online discussion boards, and, to a lesser extent, webinars, for student–student peer support.

17.3 Method

The qualitative research reported in this chapter was part of a broader mixed-method study conducted by researchers from an Australian regional university (Kember & Ellis, 2022), as discussed in Chap. 1. That larger study examined support for students enrolled in an online or blended learning mode. This chapter reports the interview data and findings specifically relevant to peer support and addresses the following key themes:

- evidence of online students mutually supporting each other in their online environment,
- influence of peer support on students' experiences in their online courses, and
- barriers to online community formation and teachers' role in supporting OLCs.

The interview transcripts were initially analysed on the basis of the various teaching initiatives instituted by the researchers in the subjects under investigation. As analysis progressed the data revealed themes relating to the participants' academic and social engagement. A number of different interactions were identified as contributing to student success in online and blended learning. These included student engagement with the learning content and materials, the student–teacher relationship, and student interactions with their fellow learners. Student–student support was found to be a critical element of the overall academic, social, and pastoral support framework required for student success in the online and blended learning environments.

17.4 Isolation of the Online Learner

It was clear from the interview data that some of the participants were enrolled in an online mode because its flexibility enabled them to undertake university study which would not otherwise have been open to them, due to their individual personal circumstances. However, their preference would have been to study on-campus, because of the benefits of face-to-face interaction, especially with fellow students. For example, Teresa noted, “If I had a preference, of course I would probably prefer to go along and be in a classroom setting. But if that was the only option for me then I wouldn't be doing teaching now.” Another Education student, Nadia, expressed a similar sentiment:

I would definitely do a face-to-face course if I could. So, it's a double-edged sword in a way. I don't think it's the best format [online] for me to learn, but in many ways it's the most accessible. I think that having done face-to-face and online it's a very different experience. And I just think that maybe that sense of community and collegiality is more cemented with face-to-face. You've almost got that direct resource on a daily level. And I know that you can communicate with people online. It's just a very different process.

The issue of the isolating nature of online learning was raised by a substantial number of the participants who spoke of the challenges of engaging with fellow students online (Marissa), the lack of interaction and communication with others (Regan), and the resultant feelings of loneliness (Kayla) and disengagement (Alexandra). As Patricia observed, “You can be surrounded by many people in your subject, but it's really difficult to connect with them.”

17.5 Online Learning Community

One support mechanism identified by participants as a means to overcome the essentially solitary nature of their online study was the OLC connected with the subject they were studying. Several participants made the point that they needed the support of other students to succeed. For example, as Karen noted, “I feel like it’s not possible to do this by yourself. You have to do this with other people.” Several participants explicitly recognised that an OLC had been established in the subjects they were studying. Crystal stated, “I also liked the community there because they are supporting one another, and I felt like I had friends.” In responding to a question about the use of discussion board, India expressed the view that:

I was able to pop in and get that community feel with that forum. I felt that definitely filled that gap. ... The comradery I found in some of the discussion boards, it felt like a real community of people in there that were very supportive of each other.

17.6 Establishing an OLC

Several themes emerged from the interview data in relation to matters, both positively and negatively, affecting the establishment of a student OLC, as discussed below.

17.6.1 *Interaction and Participation*

Participants clearly recognised that an OLC will not function unless students interact with each other. As Lisa commented, “I do think that the weekly discussions benefit everyone who does them and participates, especially because they’re really the only contact I have with other teaching students because I’m doing it distance.” In offering her own advice to online students, Lisa suggested:

Just get involved as much as you can, with both the other students, and the tutor, the subject co-ordinator, everybody you can. Just so you don’t feel alone and you’ve got the people there to help if needed. Because everybody is in the same boat.

The need for participation was highlighted by Yolande when she described a previous negative experience”

There was just no connection with people in the subject. I didn’t know any of the other students online. Nobody used the discussion board at all. It was like one comment, maybe once a week from someone saying a random question that wasn’t really relevant to anyone else. I didn’t ever see people pop up.

However, participants also emphasised that the interactions needed to be purposeful and involving some learning benefit. Brittany described this as “high quality interaction”, going beyond a shallow response like “Good job!” When asked about her

experience of mandatory assessed interaction on discussion boards, Nadia stated that, “Rather than doing it in a meaningful way, I felt that I was just ticking boxes if I had to post.”

17.6.2 Building Connections with Peers

17.6.2.1 Knowing Peers as Individuals

Participants’ descriptions of negative study experiences throw into relief issues critical to the establishment of positive peer support through an OLC. A statement which occurred frequently throughout the interviews with the participants was that they only knew “just the names” of their fellow students. Alexandra’s comment reflected those of other participants when she stated, “I didn’t feel like I got to know any students. No, that’s not true. There probably were a lot that posted regularly, and you sort of get to know their names. But that’s about it.” This lack of relationship with peers was exacerbated by the limited nature of their interactions on the discussion board, as reflected in Kayla’s comment that “You see the people’s names all the time. But you don’t, I mean. You’re really only talking about the discussion board post that you’re posting for.” In a similar vein, Oscar reported, “There was a student I was really engaging with. You know, we were throwing ideas back and forth. But then, once that finished, that was it, you know.”

In contrast, some participants who had progressed through their courses made the point that they recognised fellow learners from previous subjects they had taken together. As Ebony noted:

The first semester, obviously, you would be on discussion boards with, I assume it was 20 or 30 others, and certainly you would recognise names. But it’s been interesting this semester going back, a few of those students are in my same discussion boards. And that in itself has been a bit more comforting because you’re used to the way people express themselves and the way that they write. So that’s been really nice, to pick out a few names that I recognise from last semester. So that’s been good. Yeah, you do create a community.

Participants also reported that connections with fellow students on asynchronous discussion boards was aided by synchronous webinars. Nadia noted, “I think webinars are great, because it does connect you personally to the group.” Yolande’s view was similar, stating that “They did run webinars, where you actually get to do face-time with them and a couple of (other students in) the group. So you actually get to say hello and have a chat.”

17.6.2.2 Common Experiences

A theme that emerged strongly in relation to student - student engagement was the importance of common experience. At the broadest level this was expressed in terms of participants’ undertaking online study together. Francesca commented, “Like,

coming online, everyone's been really great. Especially those studying online too, because we're all in the same boat." Several participants made reference to sharing common goals with their fellow learners. For example, Karen noted that "It's so nice to have a forum where everyone can talk without necessarily knowing each other. Just the fact that we have the same goals in common."

Participants also emphasised that having shared life experiences facilitated their connection with other students. In Brittany's case:

The initial introduction week where we introduced ourselves on the discussion board, and I responded to a few people because I found that it's been quite nice actually. By doing those introductions, you can see where everyone else is coming from. So there was a few mums returning to study that had young children, so I could relate to that. ... It just made me feel like I'm not the only one doing it, because I guess with online, it can be quite isolating if you don't make use of that resource and those connections. (Adapted from Kember et al., 2022)

Teresa also described connections based on common background, in her case, the experiences of a mature-aged learner.

It's funny because particularly ones where you're tracking through the same subjects, so you see, you know, the same students' names and you go "ah". And particularly when you just—I think it's just coincidental, you land up with the same people in your tutorial group. So there's been a few that I've kind of got to know, I wouldn't say well, but you know—and I suppose that's just natural, most of those are mature aged students like me and it's not—I think it's just because you tend to find, you know, our language is the same. ... it's no disrespect to an 18-year-old starting university, but they have a very different mindset at that age. We're very conscious of, (as) a mature aged student, we want to get through this degree, we want to do well, we want to apply ourselves, ... and you can tell sometimes from the discussion board posts...that some younger students—it's like "Oh yeah, look, you'll get a pass, we'll just get through it and get onto the next thing"... And I get that because you're 18 and you've got your whole life ahead of you and you have a very different mindset to someone who goes "Well, I've made a decision as a mature aged person to go back to university, so I'm very committed to this."

17.6.2.3 Trust

Several participants linked the establishment of a supportive OLC with the development of trust between its members. For example, Ebony commented that, "You do create a community. People are allowing themselves to be vulnerable in that situation. And a lot of them, we may never meet each other." Pamela, who was undertaking online study together with a group of her work colleagues, provided valuable insights regarding the role of trust within the learning community:

It's a question of getting to know each other and building trust, so what we did was we found ourselves using the discussion boards to explore things together and to express opinions and to get support. So, we've been doing that, gradually building up, building up, building up, building up, so here in this subject we've kind of already arrived. ... I think the thing is that getting people to trust each other online, that they can give each other support.

17.6.3 Face-to-Face Interactions

One unexpected finding from analysis of the interviews was the online participant's desire to establish face-to-face relationships with their online peers, often to study together. Pamela explained:

One of the things that some of the group did was they arranged, the people who lived locally or to each other, they arranged small study groups together, and there was one that one of the teacher students arranged up at the, I think it was before assignment four, they arranged, got people together on a Saturday morning in the library at UTAS in Hobart. That was the kind of thing people can do.

There are some people who live in more rural areas and a couple of them arrange to meet up. That was TAs [teaching assistants] that did that, so they had a kind of loose study group that they get together every now and then.

Teresa spoke about her own experiences:

I actually was fortunate enough to meet another student ... She's studying part time as well, but we met online. I think it was in the introduction section in one of the first subjects that we did, and we had introduced ourselves. When I read hers, I realised that she didn't live too far away from me. So, I got in touch with her and ... we've been kind of study buddies for the last couple of years. So that has certainly helped, having somebody physically that exists out there. And I have met with a few students at UTAS that have initiated "Look, we're online students, we're all in the South, who wants to get together and discuss this assessment?" So, I've done that a couple of times as well.

India also followed up her online interaction through in-person contact with a fellow student: "I did meet up with one other student in person a couple of Sundays to go over content, which was great. We arranged that via one of the forums, the online discussion board." Regan's reason for joining a face-to-face study group formed by online students was, "Students on-campus no doubt were catching up. You know that there's a lot more communication going on with on-campus students than would have been happening online."

17.7 Peer Support in OLCs

The interview data revealed that the interviewed participants both provided and received a wide range of support from their fellow online students. While there were many comments of a general nature, e.g., "Everyone's really supportive" (Nadia), more specific forms of support were highlighted in terms of academic, social, and pastoral support.

17.7.1 Academic Peer Support

Participants discussed a wide range of academic support provided by, and to, peers through the medium of discussion boards. At its most straightforward, academic peer support related to the subject and the learning content. Teresa, who was initially cautious about interacting on the discussion board described that:

If you don't do it, you miss out on a lot of content and a lot of important discussion, and a lot of things that happen. Not just, obviously, the subject coordinator and things, but (also) with other students who have valuable contributions.

William explained his participation on the discussion board on the basis that "You always know what's going on and it helps with assessment tasks, and you keep on track. It's good to talk to and work with other people that have done the same thing, even if it is online."

Most of the participants reported using the discussion board to ask questions of their peers, as well as to read the answers to other students' questions. Sandra explained, "If I get really stuck, I'll put something up on the discussion posts and ask for help. That's pretty good. Everyone's really good. They help there." Many of the students also referred to using the discussion boards in order to get different perspectives on issues from their peers. Sandra reported that, "It helps me to go over what I have learned. And then also for me then being able to read other people's perspectives and their take helps me to broaden my learning." Patricia, who was studying a mathematics education subject, "Jumped on to see what other people had done or how they solved the problem to compare it to how I had."

Other students spoke of their perception that use of the discussion board had deepened their learning. Vincent stated that, "It really enabled me to develop my thinking and understanding of the subject and the concepts and theories surrounding it. And then also understand other people's opinions and see where they're coming from as well." In Sandra's view, "It wasn't just that you made a post and that was it. Actually, you were challenged that little bit further, which I like, and also it encourages you to think that little bit more."

17.7.2 Social and Pastoral Peer Support

The aspects of social and pastoral peer support that emerged from analysis of the interview data were much less clearcut than those relating to academic peer support. There was much overlap between these types of support, and they may even be usefully conceptualised as falling on a continuum.

Chapters 9 and 20 discuss whether the separation between academic and social integration, which is a feature of Tinto's model for attrition from on-campus teaching, is also applicable for online learning. The suggested interpretation is that separate activities academic and social interaction do not normally feature in online learning. It, therefore, seems more plausible that any social integration will evolve

from academic activities. This suggests, that in online learning, academic and social integration are more likely to be intertwined, rather than discrete. The evidence in this chapter of social interaction developing from academic activities and interaction provides evidence to support this interpretation.

Many participants referred to purely social support they received from their online peers, focussing on friendship elements:

I made one fantastic friend through the discussion board. (Gina)

It was a real friendship group with everybody else. (Yolande)

I like the community there because they are supporting one another, and I felt like I have friends. (Crystal)

Other interview responses linked the social support they felt from their peers with beneficial outcomes in terms of stress, coping, and motivation, introducing pastoral elements to the interactions. For example, Ebony pointed out that, “We’re all very encouraging of each other.” Wendy explained:

You could also communicate with the other students and see what questions did other people have that were similar to mine ... [so I’d feel] like, I’m in the same boat. So, it alleviated my stress, going, ‘OK. I’m not the only one’.

Lisa highlighted that “It was nice to have a bit of a moan or talk about what we really liked and didn’t like with people who understood, rather than just family or friends who aren’t in the classes.” William spoke about friends in his classes, “And if we’re struggling, we can talk to each other about it.”

The interview data collected from one student, Olivia, also made reference to issues around pastoral peer support. She confided that when she failed to complete a subject due to a combination of physical health and family issues, “I went to Student Services, because someone said that, you know, I should get a LAP [Learning access Plan].” Olivia also discussed her role as a peer mental health first aider. In relation to the challenges of stress and depression impacting students, she said, “I think it comes down to support, and knowing that someone’s got something going on. Just that engagement.”

17.8 Barriers to OLC Peer Support

Analysis of the interview data also revealed several barriers to online student–student support. One reason cited by a number of students for their lack of participation on their subject discussion boards was time.

I wasn’t one to spark up conversations with other people just for the sake of it. I had far more important things to do, like assignments, than talking to other people about their thoughts. (Diane)

I just really didn’t have the time. I’d go and have a quick read, and I was just like ‘You know, I don’t have time’. (Caitlyn)

I don't have time to read the discussion boards. Look, I have time to contribute where I need to, but I don't have time to refer to them and continue. Like, it's just a luxury that doesn't exist. (Marissa)

One response provided by Sandra about her priorities was particularly telling.

(Interviewer) Did you feel like you were really part of the university in the learning that you've done?

Probably not, but I'm sort of okay with that as well, because engagement, socialising, interacting, all that sort of thing, that's, it sounds terrible but it's also extra time and effort, that I don't really have, so to be able to have a list of things that I need to do each week to learn the things I need to learn to be a successful teacher, that's sort of what I'm looking for, so the engagement part of things I'm not ... I guess if I wanted to experience university life I'd be on campus.

Another barrier to online academic and social integration identified by participants was a perceived reluctance by their peers to interact, because of pre-existing friendship groupings. Gina observed, "In terms of, like, peer support it's not really there. I think some of the reason is there's already like a little friend group." Similarly, Jen talked about "cliquey groups" in tutorials where she felt excluded. One participant, Erica, a mature-aged and very experienced learner, admitted that she felt no need for peer interaction. "I don't think I really need to have a lot of interaction with either the lecturer or the other students because, really, I'm not doing it for any purpose other than my own interest."

Participants also pointed to issues around students lacking confidence to interact with their peers. Patricia noted that a lot of time she was second-guessing what she was writing because she "didn't want to say or do the wrong thing." Vincent also felt constrained by a lack of confidence, stating "I was a bit sceptical about voicing my opinion on the discussion board because I was worried, if I don't know what the answer is, I don't want to come across as stupid or be wrong." David described the situation of webinars being dominated by a few very confident people, with shy students missing out on an opportunity to contribute. The data also indicated that some students chose only to have a limited, one-way, involvement with the OLC, in that they would read other students' posts without making any active contribution. Crystal explained:

I found lots of information from student discussion board because sometime I had the question but the student already asked the question sometimes. And I just follow that and then I got my answer straight away. Like I have a look, oh, maybe I have similar question or other students suggest some other good idea there. And they share the other information. Said okay, go to this link or that website and then I get extra information.

A further barrier to the establishment of a supportive peer-peer environment recognised by participants was a lack of authentic communication. Olivia commented, "Sometimes I think they're not people's real opinions, they're what they want people to think they think. I think there's all a falseness that goes on in discussion boards or what the lecturer wants to hear." Wendy made the point the "You have a different voice typing online than you do in natural life." An excerpt from Andre's interview is very relevant:

What I often also find is that there tends to be this kind of forced emphasis on using the discussion board. So, it's kind of like because we're not face-to-face, so now we're onto kind of just do it as though we're still doing something, let's get you all posting comments and doing all these things. But it kind of almost feels like a very kind of forced and inauthentic kind of way of doing it for the sake of doing it, rather than necessarily adding value to that learning experience. So you're not really connecting with people.

He went on to add, "In real life, we don't have a problem often conversing with one another, but then the second it's online, it's almost like there's that kind of stigma of the oversight of the lecturer, I can't say what I want to say and it's there forever and things like that."

17.9 Role of the Teacher as OLC Facilitator

The data analysed for this chapter also raised the issue of the teacher acting as facilitator for the OLC, providing students with the opportunity to support each other. In Gina's view, the teacher's role was central: "She loved making her classroom and the subject feel like a community. A learning community." Marissa voiced a similar opinion about an online tutor, stating, "Some of those tutors have been really good in that space. Like, they really know how to get you connected to other people and engage." Wendy observed that the teacher could foster peer academic support by shifting the onus of inquiry to the learners themselves, in that, "She encouraged us to ask each other, so there was a couple of times where other students did answer our own questions." Participants also recognised that the teacher facilitated student–student interaction through collaborative learning. Regan recalled:

That [Lecturer] encouraged people to work together for assignments. Not that it was a shared assignment, but to meet – And, you know, I've read research that shows it's a key strategy for, you know, encouraging persistence in learning, especially for mature age and isolated students. But previously it had been a bit – it probably hadn't been spelled out, but some of that just certainly made it seem – you know, there'd been things like "This 100% has to be your own work, ensure you're not working with someone else on it." ... So, when [Lecturer] invited people to do that, you know, suggested it, you know, I put an enquiry out there "Is anyone interested in meeting at the Sandy Bay Campus to discuss?" And we had a group of four or five of us.

As noted previously, the use of student introduction exercises by their teachers assisted Brittany and Teresa to make follow-up contact with students in their classes with whom they shared things in common. Participants also identified the positive benefit of a teacher monitoring student participation and interaction on the discussion board. Marissa spoke about experiencing family issues which impacted her study. She was contacted by her teacher, "And she said, 'I've noticed that you haven't been posting or not engaged as much as you could.' ... I do feel that was a nice personal engagement."

Interestingly, in one of the online Education subjects, several participants reported, in a positive way, that one of the more experienced students had taken on a teacher-like role in facilitating discussion board interactions between students. Regan noted:

I think a lot of that was led by [Student name]. Yeah, she was almost like a second tutor within the course. Not that she directed people but she's just so eloquent and just contributed really useful information and had really genuine replies to people.

The interviews also contained students' descriptions of negative experiences when teacher facilitation of the OLC was unsuccessful. Such examples highlight the need for positive teacher action in support of student–student engagement.

One of the tutors just kind of gave up, like, responding and posting to the discussion boards. Like, there was almost radio silence. I think that kind of sent a message to myself, like, 'Is there any point in using this forum for this particular class?' (Marissa)

I did three subjects last semester. I got two HDs and a pass. Guess which one I did online? The pass. Because there was no feedback, no discussion with you. You know, you just have to listen to some content, answer the question, you don't get to discuss anything with anyone. ... I felt like a number. (Olivia)

With [Lecturer], she was really engaging with the student. And, you know, with making us think and I really enjoyed that. ... Whereas the other one, you know, she wasn't really engaging. Well, the tutor that is. And I, we were set like we were on, by ourselves, you know. I know it's a distance course but she wasn't really engaging and making us think. (Oscar)

17.10 Discussion

17.10.1 Evidence of Peer Support and Community Formation

There was clear evidence in the interview data that the student participants received support from, and offered support to, their peers in the subjects they were studying. The word 'community' was mentioned multiple times, clearly indicating of formation of online communities. The students were not only supporting each other but were doing so with an awareness of the impact these actions have on the learning environment. They developed a shared identity defined by a shared domain of interest (Wenger-Trayner & Wenger-Trayner, 2015), that is, their online learning.

Evidence was found in all the three domains of support as identified in Chap. 12 of this book: academic, social, and pastoral. Unsurprisingly, most peer support received and offered by the student participants in this study was for academic purposes. This is to be expected as studying in the subject was the common factor shared by all the student cohorts. Students would normally go to peers in the subjects they study and seek support in relation to content or tasks specific to that subject. Some of the areas in which academic support was offered or received included: exchanging ideas, deepening understanding, completing assessment tasks, finding information and learning materials, and reflecting on the subject content. These reflect suggestions in the literature that shared purposes, interests, concerns, or passion are implied in the sense of a community (Augar et al., 2004; Bogue, 2002; Wenger-Trayner & Wenger-Trayner, 2015). In this study, interactions between members of the online community not only aided the students in completing the tasks required, but, in some cases, also

enhanced their quality of learning. This is consistent with the constructivist theory of learning that knowledge building occurs through interactions (Covelli, 2017; George et al., 2021).

Although academic support emerged as the most significant type of peer support, the other two types of support, social and pastoral support, were also observed in the data. Some students extended their connections with other students and went beyond academic study. These students reported that they developed friendships with other students in the learning community, mostly with peers who share similar backgrounds. The students spoke about connecting with fellow students who may have been of a similar age, were juggling family and childcare responsibilities, lived in the same general location, or exhibited a similar level of commitment or attitude towards achieving their degree. These commonalities provided the basis for them to build further connections and support each other. There was a higher level of trust between these students compared to the relationships they had with other members in the subject. Although it is likely that families and friends were the dominant sources of support the sought and received in the social and pastoral domains, some students saw peers that they were studying with as friends. In some cases, this friendship extended beyond the specific subject, into their later study in the degree, or into wider aspects of their lives.

17.10.2 Student Perceptions of Peer Support and Online Community

The participants in this study recognised the value of an online community in alleviating stress associated with online study and maintaining mental wellbeing. This finding reflects the literature about people's natural desire to connect with other people (Pérez Sánchez et al., 2022). Online learning can be lonely, however, connections with other students can significantly reduce the feeling of loneliness and make online learning an enjoyable experience. This is consistent with Tinto's student retention theory, which identified social integration as essential to student retention in higher education (Engstrom & Tinto, 2008; Tinto, 1975, 1987, 1993, 2012, 2017). Although Tinto's theory was developed at the time when learning and teaching was primarily on-campus, this study confirms the consistent need for social integration of students in online courses.

It is important to note that gathering people together, physically or virtually, does not, of itself, lead to community formation. In face-to-face environments, gathering people in the same location does not automatically lead to connections or community building (Wenger-Trayner & Wenger-Trayner, 2015). This is the same in online environments. Adoption of an online discussion board or any other online spaces does not guarantee collaborative and meaningful interactions. Students need a shared purpose or interest to motivate them to form a learning community, and a sense of

trust and belonging is essential for a learning community to remain live and active (Augar et al., 2004; Masika & Jones, 2016; Thomas, 2012).

The student participants in this study had both positive and negative experiences with online study. In an online discussion space where there was no community, there was limited usage of the discussion board, discussion tasks became a ticking-box exercise, and students did not know each other apart from their names. This is an example where a shared purpose or interest was lacking. However, in an online space where a community was established, students knew each other as individuals. Many student participants talked about the feel of a community, and linked this to a sense of belonging, trust, and connection (Shah & Cheng, 2019; Thomas, 2012). For some students, peer support is not a supplementary factor, but rather an essential element for their success (Fetter et al., 2010). Working with peers is considered essential to students maintaining their motivation for learning and to overcoming hurdles they face. Some students gain motivation and feel recharged by being reminded that they are not doing the online study alone.

17.10.3 Gaps and Barriers in Online Community Formation

While there were many positive comments about the influence of online community and the students' experiences studying in the online subjects, the findings also revealed gaps and barriers to online community formation. Some major themes emerged include the lack of time, the lack of confidence, and doubts about the quality of online communication.

The lack of time is a common barrier to online community formation and to online learning overall. Research shows that online courses have a significantly higher percentage of mature age students who have other work or family commitments (Kember & Ellis, 2022; Norton et al., 2018) (see also Chaps. 4, 5 and 6). Many of these students also choose to study part-time to cope with these competing commitments. The complex roles these students have, a combination of student, caregiver, and employee, mean they need to overcome many distractions to achieve their study goals (Farrell & Brunton, 2020). Despite that many mature age students are highly committed to achieving a degree, study can be more challenging for them. Those who have good time management skills and find it easy to transition between tasks may be able to perform well with small chunks of time. Many of the others, however, feel challenged by the limited time slots they have available for study. Time management is a commonly recognised challenge for online students (Angelino et al., 2007; Broadbent, 2017; Eliasquevici et al., 2017). Due to a lack of time or energy, some may feel satisfied by completing only assessment-related tasks and passing the subject, rather than devoting time to socialising with peers in the group, exchanging ideas, or supporting others' learning.

The data revealed that students' lack of confidence was another barrier to online community formation. People have different communication skills, and not all students chose online learning because they see this as the most effective way of

learning. Some students in this study preferred face-to-face classes, especially those who prefer face-to-face communications. Online interactions without visual cues or body expressions can be difficult for these students (Liu et al., 2007). Some student participants who identified themselves as shy or introverted felt less comfortable about contributing to online conversations compared to other members of the group. The link between individuals' personality traits and online learning outcomes is evident in research (Varela et al., 2012). Students can come into a subject feeling reluctant to share their thinking or personal experiences. Some may feel reluctant to reveal their own understanding due to the fear of getting wrong. They may feel reluctant to challenge others due to the fear of upsetting others. There were also other students who felt uncomfortable joining into existing groups (Griffin & Roy, 2022). This reluctance and fear may be particularly significant at the beginning of the subject, as the relationships and trusts are not yet built. This can cause student disengagement, masking their own identity, or trying to fit in through superficial conversations. These reactions are not sustainable approaches and are not constructive to learning. Often, students need support from teaching staff to overcome these challenges and adopt a positive approach to their online learning.

17.10.4 Teacher as Facilitator in Online Community Formation

The interview findings reveal the need for teachers and tutors to take an active role in online community building. As discussed in earlier sections, online community formation does not happen automatically and should not be left to chance. While there are learning communities that are self-organised, most communities need some cultivation and leadership to ensure smooth running and quality interactions among group members (Peacock & Cowan, 2019; Wenger-Trayner & Wenger-Trayner, 2015). This is the same in an online environment. While it is possible that some students can initiate and maintain meaningful engagement as an online group, more often, engagement is likely to decrease or cease if it is not reinforced. Therefore, input from teachers and tutors is critical in establishing or maintaining active communication online. Their monitoring is also crucial in ensuring constructive and quality communications (Muir et al., 2020). To support content learning, teachers and tutors can facilitate by identifying and clarifying knowledge points, highlighting learning materials, correcting misunderstanding, designing tasks that require a collaborative effort, and acknowledging student contributions (Liu et al., 2007).

In addition to content learning, community building also requires the development of social capital. Fetter, Sloep and Flores (2010) discussed ways to achieve social capital building, including creating a sense of belonging, promoting the relationship characteristics within the network, and fostering mutual support. Encouraging students to share information about their backgrounds and needs, especially at the beginning of a semester, can help to build relationships, trust, and a sense of

belonging among group members. Teachers can also facilitate by creating opportunities for students to take on leadership roles in learning tasks. This can help foster a sense of ownership and give students the chance to lead their own learning. Other strategies to promote relationship building can include leading with a positive tone in communication, using inclusive approaches to meet learners' diverse needs, and encouraging diverse and constructive voices. A culture of mutual support can be fostered through allowing equal opportunities among students and encouraging opportunities for students to gather outside the constraints of the discussion board or Learning Management System, whether online or in person.

17.11 Conclusion

Academic and social integration are key factors in student success and retention at university. Within an online learning environment, lack of support for such integration can result in students feeling stressed and isolated. Evidence reported in this chapter suggests that support provided by fellow learners can assist students to positively engage with their studies and feel a sense of belonging. This is consistent with the literature. The findings confirm that provision of support by fellow students plays an important role in effective online study and complements the wider institutional framework of student support. The interview evidence suggests that online peer interaction helps to build and maintain an online learning community which provides predominantly academic, but also social and pastoral, student support. Critical to the establishment of such virtual communities is the development of trusting relationships between members, based on meaningful interactions, common backgrounds, and shared goals. However, supportive online learning communities do not necessarily form automatically. Some students may feel unable, or for varying personal reasons are unwilling, to interact with their peers. The interview findings reveal the need for teachers to take an active role in online community building and leadership. The role of the teacher is critical to ensuring that online communication between students is constructive, equitable and supports student needs.

References

- Angelino, L. M., Williams, F. K., & Natvig, D. (2007). Strategies to engage online students and reduce attrition rates. *Journal of Educators Online*, 4(2), n2. <https://doi.org/10.9743/jeo.2007.2.4>
- Augar, N., Raitman, R., & Zhou, W. (2004). From e-learning to virtual learning community: Bridging the gap. *International Conference on Web-Based Learning*. https://doi.org/10.1007/978-3-540-27859-7_39
- Bassani, P. B. S. (2011). Interpersonal exchanges in discussion forums: A study of learning communities in distance learning settings. *Computers & Education*, 56(4), 931–938. <https://doi.org/10.1016/j.compedu.2010.11.009>

- Bawa, P. (2016). Retention in online courses: Exploring issues and solutions—A literature review. *SAGE Open*, 6(1), 2158244015621777. <https://doi.org/10.1177/2158244015621777>
- Bogue, E. G. (2002). An agenda of common caring: The call for community in higher education. In WM McDonald & Associates (Eds.), *Creating campus community: In search of Ernest Boyer's legacy*, pp. 1–20. Jossey Bass.
- Broadbent, J. (2017). Comparing online and blended learner's self-regulated learning strategies and academic performance. *The Internet and Higher Education*, 33, 24–32. <https://doi.org/10.1016/j.iheduc.2017.01.004>
- Covelli, B. J. (2017). Online discussion boards: The practice of building community for adult learners. *The Journal of Continuing Higher Education*, 65(2), 139–145. <https://doi.org/10.1080/07377363.2017.1274616>
- Eliasquevici, M. K., da Rocha Seruffo, M. C., & Resque, S. N. F. (2017). Persistence in distance education: A study case using Bayesian network to understand retention. *International Journal of Distance Education Technologies (IJDET)*, 15(4), 61–78. <https://doi.org/10.4018/IJDET.2017100104>
- Engstrom, C., & Tinto, V. (2008). Access without support is not opportunity. *Change: The Magazine of Higher Learning*, 40(1), 46–50. <https://doi.org/10.3200/CHNG.40.1.46-50>
- Farrell, O., & Brunton, J. (2020). A balancing act: A window into online student engagement experiences. *International Journal of Educational Technology in Higher Education*, 17(1), 1–19. <https://doi.org/10.1186/s41239-020-00199-x>
- Fetter, S., Sloep, P., & Flores, A. B. (2010). Fostering social capital in a learning network: Laying the groundwork for a peer-support service. *International Journal of Learning Technology*, 5(4), 388–400. <https://doi.org/10.1504/IJLT.2010.038774>
- George, A.-J., McEwan, A., & Tarr, J.-A. (2021). Accountability in educational dialogue on attrition rates: Understanding external attrition factors and isolation in online law school. *Australasian Journal of Educational Technology*, 37(1), 111–132. <https://doi.org/10.14742/ajet.6175>
- Gillett-Swan, J. (2017). The challenges of online learning: Supporting and engaging the isolated learner. *Journal of Learning Design*, 10(1), 20–30. <https://doi.org/10.5204/jld.v9i3.293>
- Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *The Journal of Experimental Education*, 62(1), 60–71. <https://doi.org/10.1080/00220973.1993.9943831>
- Griffin, L., & Roy, J. (2022). A great resource that should be utilised more, but also a place of anxiety: Student perspectives on using an online discussion forum. *Open Learning: The Journal of Open, Distance and e-Learning*, 37(3), 235–250. <https://doi.org/10.1080/02680513.2019.1644159>
- Gulati, S. (2004). Constructivism and emerging online learning pedagogy. *Annual Conference of the Universities Association for Continuing Education*, April.
- Harris, L. (2003). Turning space into place: A community of online learners seek mutual support in a familiar environment of their own making. In G. Crisp, D. Thiele, I. Scholten, S. Barker, & J. Baron (Eds.), *Interact, Integrate, Impact: Proceedings of the 20th Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education*, Adelaide, 7–10 December 2003. <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=7ec0d00b6174e9983930539578ba9fda3bf755b4>
- Igel, C., & Urquhart, V. (2012). Generation Z, meet cooperative learning: Properly implemented cooperative learning strategies can increase student engagement and achievement. *Middle School Journal*, 43(4), 16–21. <https://doi.org/10.1080/00940771.2012.11461816>
- Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in Higher Education*, 38(5), 758–773. <https://doi.org/10.1080/03075079.2011.598505>
- Kember, D., & Ellis, R. (Eds.). (2022). *Admission and success for low SES university students: Report on a HEPPEP 2018 national priorities pool project*. Australian Government
- Kember, D., Trimble, A., & Fan, S. (2022). An investigation of the forms of support needed to promote the retention and success of online students. *American Journal of Distance Education*, 1–16. <https://doi.org/10.1080/08923647.2022.2061235>

- Lin, X., & Gao, L. (2020). Students' sense of community and perspectives of taking synchronous and asynchronous online courses. *Asian Journal of Distance Education*, 15(1), 169–179. <http://www.asianjde.com/ojs/index.php/AsianJDE/article/view/448>
- Liu, X., Magjuka, R. J., Bonk, C. J., & Lee, S.-H. (2007). Does sense of community matter? An examination of participants' perceptions of building learning communities in online courses. *Quarterly Review of Distance Education*, 8(1), 9.
- Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning*, 22(1), 205–222. <https://doi.org/https://doi.org/10.24059/olj.v22i1.1092>
- Martin, L. (2020). Foundations for good practice: The student experience of online learning in Australian higher education during the COVID-19 pandemic. *Australian Government Tertiary Education Quality and Standards Agency*.
- Masika, R., & Jones, J. (2016). Building student belonging and engagement: Insights into higher education students' experiences of participating and learning together. *Teaching in Higher Education*, 21(2), 138–150. <https://doi.org/10.1080/13562517.2015.1122585>
- Muir, T., Douglas, T., & Trimble, A. (2020). Facilitation strategies for enhancing the learning and engagement of online students. *Journal of University Teaching & Learning Practice*, 17(3), 8. <https://doi.org/10.53761/1.17.3.8>
- Nistor, N., & Neubauer, K. (2010). From participation to dropout: Quantitative participation patterns in online university courses. *Computers & Education*, 55(2), 663–672. <https://doi.org/10.1016/j.compedu.2010.02.026>
- Norton, A., Cherastidtham, I., & Mackey, W. (2018). *Mapping Australian higher education 2018*. Grattan Institute.
- Peacock, S., & Cowan, J. (2019). Promoting sense of belonging in online learning communities of inquiry in accredited courses. *Online Learning*, 23(2), 67–81. <https://doi.org/10.24059/olj.v23i2.1488>
- Pérez Sánchez, C. J., Calle-Alonso, F., & Vega-Rodríguez, M. A. (2022). Learning analytics to predict students' performance: A case study of a neurodidactics-based collaborative learning platform. *Education and Information Technologies*, 1–26. <https://doi.org/10.1007/s10639-022-11128-y>
- Rovai, A. P. (2003). In search of higher persistence rates in distance education online programs. *The Internet and Higher Education*, 6(1), 1–16. [https://doi.org/10.1016/S1096-7516\(02\)00158-6](https://doi.org/10.1016/S1096-7516(02)00158-6)
- Rush, P. (2015). Isolation and connection: The experience of distance education. *International Journal of E-Learning & Distance Education/Revue internationale du e-learning et la formation à distance*, 30(2). <https://www.ijede.ca/index.php/jde/article/view/936>
- Shah, M., & Cheng, M. (2019). Exploring factors impacting student engagement in open access courses. *Open Learning: The Journal of Open, Distance and e-Learning*, 34(2), 187–202. <https://doi.org/10.1080/02680513.2018.1508337>
- Stone, C. (2019). Online learning in Australian higher education: Opportunities, challenges and transformations. *Student Success*, 10(2), 1. <https://doi.org/https://doi.org/10.5204/ssj.v10i2.1299>
- Taylor-Guy, P., & Chase, A.-M. (2020). Universities need to train lecturers in online delivery, or they risk students dropping out. *The Conversation*.
- Thomas, L. (2012). Building student engagement and belonging in higher education at a time of change. *Paul Hamlyn Foundation*, 100(1–99).
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89–125. <https://doi.org/10.3102/00346543045001089>
- Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition*. ERIC.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). University of Chicago.
- Tinto, V. (2012). Enhancing student success: Taking the classroom success seriously. *Student Success*, 3(1), 1. <https://doi.org/10.5204/intjfyhe.v2i1.119>

- Tinto, V. (2017). Through the eyes of students. *Journal of College Student Retention: Research, Theory & Practice*, 19(3), 254–269. <https://doi.org/10.1177/1521025115621917>
- Varela, O. E., Cater, J. J., & Michel, N. (2012). Online learning in management education: An empirical study of the role of personality traits. *Journal of Computing in Higher Education*, 24(3), 209–225. <https://doi.org/10.1007/s12528-012-9059-x>
- Wenger-Trayner, E., & Wenger-Trayner, B. (2015). *An introduction to communities of practice: A brief overview of the concept and its uses*. <https://www.wenger-trayner.com/introduction-to-communities-of-practice>

Chapter 18

A Teaching Quality Enhancement Initiative Which Uses Evaluation Feedback to Enable Online and Blended Teaching to Provide Support to Students



David Kember and David Hicks

Abstract The SEM model presented in Chap. 14 was tested with data from a questionnaire with scales or factors for the four pedagogical elements necessary for the teacher to provide a supporting environment for online and blended learners: bite-sized videos of interest and relevance; learning materials which were well organised and provided a clear learning roadmap; discussion forums which were set up and moderated so as to result in lively student–student and student–teacher interaction; and; online teachers being approachable and responsive to communication with individual students through email, phone and online communication platforms. In addition there was a scale for the development of virtual learning communities, which is a factor in promoting retention and success. This chapter shows how the questionnaire can provide feedback to teachers to enable them to make their online and blended teaching more consistent with the model of good practice followed by the award-winning teachers. The design of a system for implementation of the evaluation scheme will be discussed, drawing upon extensive international experience. The validity, reliability and psychometric properties of the questionnaire will be established, as this is important for the credibility of the initiative. A service for collecting and presenting feedback to teachers will be described. Processes for counselling teachers about the meaning of the feedback and strategies for quality enhancement will be discussed, as these are essential if the feedback is to be acted upon.

D. Kember
Gravelly Beach, Australia

D. Hicks (✉)
School of Education, University of Tasmania, Tasmania, Australia
e-mail: david.hicks@utas.edu.au

18.1 Introduction

Chapter 14 used SEM to validate the model by which the formation of learning communities could be promoted through four high quality pedagogical elements: bite-sized videos of interest and relevance; learning materials which were well organised and provided a clear learning roadmap; discussion forums which were set up and moderated so as to result in lively student–student and student–teacher interaction; and; online teachers being approachable and responsive to communication with individual students through email, phone and online communication platforms. Chapters 9 and 17 argue that the formation of learning communities is a step towards promoting the retention and success of online and blended learners. Chapter 15 illustrated and substantiated the model by providing detailed characterisations of the four pedagogical elements for online teaching from the teaching courses of award-winning teachers. Similarly, Chap. 16 provides a detailed guide to supportive teaching for blended learners, based on an anatomy and physiology course taught by award-winning teachers. The book, therefore, has a model, substantiated by rigorous quantitative and qualitative research, for supporting the retention and success of online and blended learners, which is extensively illustrated with material from the teaching courses of award-winning teachers.

The purpose of this chapter, and the following one, is to address how universities might go about implementing this model and the other forms of support for online and blended learning discussed in the book. The focus of this chapter is specifically on the four pedagogical elements of the model. The model shows that the formation of supportive learning communities, and the degree to which teachers can support the retention and success of their online and blended learners, depends upon the quality of the four pedagogical elements. According to the model, therefore, the degree to which teachers and the university support the retention and success of online and blended learners will depend on to the extent to which teaching is aligned to the quality of the four pedagogical elements exemplified by the award-winning teachers. This chapter advances the argument that a way to better align the four pedagogical elements, and thereby improve support, is through implementing a teaching quality enhancement initiative which provides evaluation feedback on the quality of the four pedagogical elements.

18.2 University Evaluation Services

To mount a teaching quality enhancement initiative based on evaluation feedback, the university needs an effective service for conducting the evaluation which provides the feedback to teachers. Just about all universities have such evaluation services, but whether they are effective and have the flexibility and capability of underpinning a teaching quality enhancement initiative, which results in significant quality enhancement, may be another matter.

The advice in this chapter is based on an extensive career in educational development in higher education, running evaluation services by David Kember. The expertise gathered from this experience has been encapsulated in Kember and Ginns (2012). The book contains a battery of instruments to provide feedback on a wide range of levels and types of learning and teaching. It discusses how consultation can provide feedback which does lead to significant quality enhancement, as evidenced by numerous publications (e.g. Kember, 2009, 2020; Kember & Ginns, 2012; Kember & Leung, 2005, 2009).

As the questionnaire for the model advanced in Chap. 14 was only recently developed, there has not yet been time to mount a quality initiative specifically based on it. Instead, this chapter will give detailed instructions to mount such an initiative, drawing on the expertise and experience gained with other instruments in other contexts.

18.3 The Questionnaire

To provide feedback which will be sufficiently diagnostic to enable teachers to identify which aspects of their teaching need to be addressed, the questionnaire needs to be authentic and valid. In other words, it needs to provide accurate measures of the pedagogical practices which are genuinely related to the quality of learning and teaching for the type of teaching evaluated. The research discussed in Chap. 14 has produced a model, validated by SEM and interview data, which shows that four high quality pedagogical elements promote the retention and success of online and blended learners. A suitable questionnaire, therefore, needs to include scales or factors which provide measures of each of the four pedagogical elements.

The development and testing of the questionnaire was described in detail in Chap. 14. As it is central to this chapter, the questionnaire is reproduced here in Table 18.1. It will be noted that each pedagogical element is measured by a scale containing three items. The pedagogical elements are multifaceted constructs, so need more than one item to measure them, however it is important to balance this need with the overall length and subsequent time required for an individual student to complete the questionnaire.

To be consistent with the model, the questionnaire also contains five items making up a scale measuring the formation of learning communities. Three of the items measure social integration and two are for academic integration. The questionnaire can, therefore, provide feedback on the extent to which teaching supports the formation of learning communities, an integral step towards retention and success.

Table 18.1 The Online learner support questionnaire

Videos				
Lectures and videos are short and ‘bite-sized’	SA	A	D	SD
Lectures and videos are in manageable chunks which are convenient to study	SA	A	D	SD
The content and learning materials are interesting	SA	A	D	SD
Learning materials				
Content is organised into manageable chunks in a logical order	SA	A	D	SD
There is a clear pathway through the content	SA	A	D	SD
The content, learning materials, readings and activities are arranged in a logical sequence	SA	A	D	SD
Discussion forums				
Discussion forums lead to exchanges between students	SA	A	D	SD
The topics of discussion forums motivate students to contribute posts	SA	A	D	SD
The teacher’s posts on discussion forums motivate students to post	SA	A	D	SD
Teacher-student exchange				
The teacher is approachable	SA	A	D	SD
The teacher responds promptly to emails and discussion board posts	SA	A	D	SD
The teacher uses a range of media to communicate with students	SA	A	D	SD
Learning community				
In this unit I feel like we are part of a learning community	SA	A	D	SD
Teachers and students have formed a supportive learning community	SA	A	D	SD
Teachers and students are integrated into a social and supportive group	SA	A	D	SD
We receive academic support which helps us complete the unit	SA	A	D	SD
We are able to cope with online study because of the quality of the teaching and learning experience	SA	A	D	SD

SA strongly agree, A somewhat agree, D somewhat disagree, SD strongly disagree

18.4 Psychometric Properties of the Questionnaire

The development and testing of the questionnaire has been dealt with in detail in Chap. 14. The validity and reliability of the instrument has been established in a rigorous way, to a standard which would be acceptable to a high quality journal. Establishing the psychometric properties to this standard is important, as it means that the questionnaire, results from it, or an evaluation service underpinned by it, is assessing what it claims to be assessing. Furthermore, the results from the questionnaire should have credibility to the teachers receiving the feedback.

For the purposes of supporting an evaluation service, the most important part of this testing and development process was the SEM modelling. The results of the SEM testing established a clear model of the four elements of pedagogy which need to be of high quality to promote the retention and success of blended learners. The tested version of the SEM model is shown below in Fig. 18.1, as it can be used in the

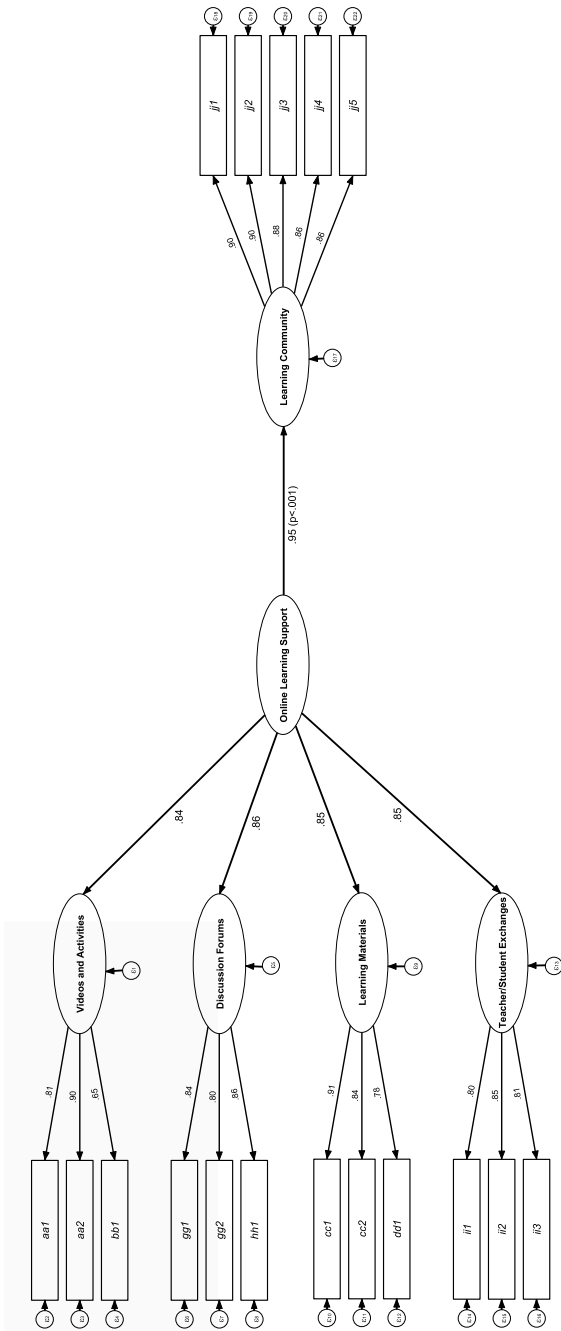


Fig. 18.1 The standardized SEM model which underpins the questionnaire

consultation process discussed below. The model diagram serves as evidence of the psychometric quality of the instrument and the results from it. The model diagram can also be used to explain the importance of the quality of the four pedagogical elements for supporting and blended online learners.

18.5 Data Collection and Administration of Questionnaire

The first question to be addressed is who to administer the questionnaire to? The design of the instrument was originally based on a model of good practice in online learning. It is, therefore, suited for administration to students enrolled in online subjects. Teaching modes are best visualised as being a continuum between fully online at one pole to fully face-to-face at the other pole (Dziuban et al., 2004). Everything in between, these days, tends to be labelled blended learning; with the position on the continuum being determined by the extent to which online learning features within a given subject or degree. The questionnaire will be suitable for administration to blended learning subjects with significant online components, but teachers may question its utility if the teaching is predominantly face-to-face, with a minor online component. Chapter 13 suggests that since the onset of Covid-19, the adoption of blended learning has become the new normal, though many teachers and their universities have lacked the expertise to take full advantage of the teaching mode. It might, therefore, be useful to apply the questionnaire in such institutions to make it clear to teachers which of the four pedagogical elements of the model may need attention; opening the path towards a potentially fruitful teaching quality enhancement exercise.

Chapter 20 concludes by discussing potential future research following from that in this book. One of the most fruitful areas is likely to be extending the research into the model of teacher support beyond that for online learning towards forms of blended learning likely to be common in the new normal in universities which had to adapt to online and blended learning following the onset of Covid-19. In terms of the model, the obvious way forward is to add an additional factor or two for the on-campus component of blended learning. The questionnaire will then need additional factors or scales, with corresponding items, to measure the inherent constructs. The quantitative research needed to expand the questionnaire will need to be based on the type of qualitative research outlined in Chap. 1 and used extensively through the book.

18.5.1 Administration

These days most universities require all subjects to have a site on the university's LMS, regardless of the mode by which the subject is offered. Many LMSs have facilities for administering and processing questionnaires. However, it is not normally

recommended that these LMS facilities are used, since they have limited questionnaire formatting options and lack the necessary statistical analysis functions. Instead, it is better to use software packages specifically designed for the purpose of data collection such as Qualtrix, REDCap or other survey administration platforms. Alternatively, the system a university uses for administering student evaluation of teaching (SET) questionnaires may be sufficiently flexible for the task.

The LMS system can be used to generate email lists of students enrolled in the subject. Email messages can be sent to students requesting them to complete the questionnaire. Embedded within the email will be a URL for the questionnaire. Clicking on the URL will reveal the questionnaire to be completed. If the questionnaire administration software is set up properly, once the questionnaire link is clicked on and the questionnaire completed and returned, data from the completed questionnaires will be returned to a database compiled automatically from the list sent out.

The database will have records of which students had responded. Reminders can be sent to non-respondents; if necessary several reminders. Lecturers should be asked to encourage students to respond. Publicity should be given to changes resulting from the evaluation exercise, to convince the students that the questionnaires were worth completing.

If the questionnaire database is set up as suggested above, with results arranged by subject, it will be straightforward to produce a presentation of results for each subject. A suggested way to present the results to the subject teachers as discussed in the next section.

18.5.2 Presentation of Results

For the questionnaire to provide useful feedback, it is important that the results are presented in a clear understandable manner so that they enable teachers to diagnose actions which not might be taken to enhance the quality of teaching and learning. A suitable presentation format is shown in Table 18.2.

The first column shows the questionnaire items. The items are grouped under the bolded heading for the factor or scale name, and results are shown for both the scale and the items. Including the scale is consistent with the correct psychometric design of the instrument. The questionnaire is designed to measure the constructs contained in the model shown in Fig. 18.1. The instrument contains a factor or scale for each construct. The factors are measured by the set of items shown under the heading for the factor.

The next four columns provide mean frequencies for each of the four possible responses; strongly agree, somewhat agree, somewhat disagree and strongly disagree. The fifth column gives a mean score for the item, based on averaging responses, where; strongly agree = 4, somewhat agree = 3, somewhat disagree = 2, and strongly disagree = 1. The final column shows the overall mean score for the factor or scale, with the values normalised so as to become a score out of 4. The values inserted

Table 18.2 A suitable format for the presentation of results for a subject

Item	SA	A	D	SD	Mean	Overall mean
Videos						
Lectures and videos are short and 'bite-sized'	30%	43%	17%	10%	2.9	3.1
Lectures and videos are in manageable chunks which are convenient to study	42%	36%	16%	6%	3.1	
The content and learning materials are interesting	42%	48%	7%	2%	3.3	
Learning materials						
Content is organised into manageable chunks in a logical order	45%	37%	14%	4%	3.2	3.3
There is a clear pathway through the content	46%	44%	6%	4%	3.3	
The content, learning materials, readings and activities are arranged in a logical sequence	50%	41%	8%	0%	3.4	
Discussion forums						
Discussion forums lead to exchanges between students	21%	42%	25%	11%	2.7	2.7
The topics of discussion forums motivate students to contribute posts	15%	42%	29%	14%	2.6	
The teacher's posts on discussion forums motivate students to post	27%	41%	23%	9%	2.9	
Teacher-student exchange						
The teacher is approachable	55%	37%	4%	3%	3.4	3.4
The teacher responds promptly to emails and discussion board posts	55%	38%	3%	3%	3.4	
The teacher uses a range of media to communicate with students	43%	45%	9%	3%	3.3	
Learning community						
In this unit I feel like we are part of a learning community	28%	41%	21%	9%	2.9	3.0
Teachers and students have formed a supportive learning community	32%	40%	21%	6%	3.0	
Teachers and students are integrated into a social and supportive group	24%	39%	27%	9%	2.8	
We receive academic support which helps us complete the unit	42%	40%	11%	7%	3.2	

(continued)

Table 18.2 (continued)

Item	SA	A	D	SD	Mean	Overall mean
We are able to cope with online study because of the quality of the teaching and learning experience	37%	34%	18%	11%	3.0	

in Table 18.2 are those for the sample of questionnaire responses from the subjects taught by the award-winning teachers, which was reported in Chap. 14.

In professionally run evaluation surveys, the mean scores are what are most commonly reported, as they summarise the results in a single figure. In this case, the most appropriate scores to report are the overall means, as these are the measures of the constructs in the model which underpins the instrument.

The mean scores are best treated as having a relative element, as the nature of the construct and the wording of items can influence values. This claim can be illustrated by comparing the overall means for the factors in Table 18.2, showing results from subjects taught by the award-winning teachers. Comparing overall means for the four pedagogical elements in the model, those for videos, learning materials and teacher-student exchanges are all greater than 3.0. The overall mean for discussion forums, though, is 2.7, which is significantly lower. The reason for this is that the design of videos and learning materials and approachability and responsiveness are largely under the control of the teacher; whereas, the degree of interaction in discussion forums is partly a function of the students willingness to contribute. However well-designed and moderated the forum, there are always some lurkers who are reluctant to contribute.

This implies that results for an individual subject should be compared to other results, rather than being used for one subject alone, thereby being treated as an absolute value. For the evaluation services on which this chapter is based (Kember, 2020; Kember & Ginns, 2012), mean scores were compared to the mean for the university as a whole. This comparison will only work if the questionnaire is widely used in the university and after a few rounds of administration. An alternative comparison could be with the mean scores for the award-winning teachers, given in Table 18.2. This would give teachers an indication of how their teaching measures against that of the award-winning teachers.

18.6 Consultation

Evidence from Marsh (1987, 2007) suggests that SET data for individuals or groups of teachers are normally fairly stable over time. Kember et al. (2002) examined data from a university's SET database and found that there was no evidence of significant improvements in scores for any faculties. In other words, SET questionnaires were administered regularly, but without any impact of the feedback on the quality of teaching and learning. These results suggest that administering questionnaires on

a regular basis and simply handing over results to the respective teacher, may not in itself be sufficient to improve the quality of learning. There is, though, evidence of improvement when there is counseling about the results (Kember, 2009, 2020; Kember & Ginns, 2012; Kember & Leung, 2005, 2009; Marsh & Roche, 1993, 1994; Penny & Coe, 2004).

18.6.1 The Appropriate Level for Consultation

Before dealing with consultation strategies, it is first necessary to deal with at what level or with which body of the university does the consultation take place. The vast majority of university teaching staff think of evaluation of teaching as being directed at the level of the individual teacher—the universal SET. Consultation about SET results with individual teachers is rare. The obvious reason is the resources it would take; the staffing of educational development units is invariably small compared to the number of teaching staff across the university, so they do not have time to perform effective consultation. At best it might be the responsibility of a department head to advise those whose SET scores fall below some arbitrary threshold; a task for which they commonly lack expertise or enthusiasm.

The experience of counselling, drawn upon in this chapter, was with evaluation at the department, faculty or institutional level. The rationale was that it was feasible to resource effective counselling at this level. It also means that the task of implementing change and improvement can be assigned to deans, heads of department and heads of teaching and learning. There is, therefore, the chance of genuine teaching quality enhancement taking place.

For the specific initiative aimed at online and blended learning, discussed in this chapter, at first glance, the appropriate level of counselling might appear to be the individual teacher. Teachers could be expected to have taken individual approaches to online and blended teaching and will, therefore, need individual counselling. It would be possible to try individual counselling in a small-scale pilot test of this initiative; with the small-scale making the exercise feasible. The counselling will be straightforward, as the questionnaire focuses on four clearly defined pedagogical elements, together with feedback as to whether the support provided is of sufficient quality that learning communities form. If the feedback suggests that attention to specific pedagogical elements is necessary, the teacher can be directed to the detailed exemplars in Chaps. 15 and 16, which are organised according to the four pedagogical elements.

For a wider initiative than a pilot test, the resources needed for counselling at the level of the teacher is likely to become unrealistic. Counselling at the department level is likely to be more effective than might be thought, particularly where departments or universities have had to make rapid adjustments to blended teaching following the onset of Covid-19. Chapter 13 suggests that teachers in a department are quite likely to have taken similar approaches to the transition to blended and online

learning, particularly in those institutions in which teaching has been predominantly on-campus and there is limited experience of the online mode.

It is quite likely there will be common feedback for three of the four pedagogical elements. As the 50 min lecture is the norm for on-campus teaching, many teachers will continue following this model for their blended learning, rather than producing bite-size videos. Online discussion forums do not feature in on-campus teaching, so teachers may not incorporate them into their blended teaching. Similarly, on-campus teachers may not regularly deal with individual email and phone queries, so may not make themselves available for this form of support when teaching shifts to the online mode.

18.6.2 Literature on Consultancy Strategies for Individual Teachers

There is a literature on counseling individual teachers on the feedback from SET. Penny and Coe (2004) performed a meta-analysis of results from experiments on the effectiveness of consultation accompanying feedback from questionnaires. Their conclusion included eight consultation strategies they found to be effective (Penny & Coe, 2004, p. 245).

1. Active involvement of teachers in the learning process;
2. Use of multiple sources of information;
3. Interaction with peers;
4. Sufficient time for dialogue and interaction;
5. Use of teacher self-ratings;
6. Use of high-quality feedback information;
7. Examination of conception of teaching; and
8. Setting of improvement goals.

18.6.3 A Practical Guide to Consultation

There is considerably less literature on consultation strategies when the evaluation aims at bringing about a specific targeted change or operates at a level other than the individual teacher. The remainder of this section discusses an appropriate form for the activity. The section contains advice based on experience over many years from running institutional level evaluation services, which included consultations with senior staff of faculties or departments (Kember, 2020; Kember & Ginns, 2012). This section contains ideas built up from many such meetings. The advice is adapted to make it suitable for the specific initiative to improve teaching and learning in online and blended learning discussed in this chapter. It should be noted that the advice is generally consistent with the eight strategies above.

Firstly—who do you meet with? If the consultation is at the department or faculty level, insist on meeting with senior staff, such as the head of department and/or dean, plus staff responsible for teaching coordination. It can be positive to also include interested teachers, but not these alone. There is no point meeting with those without the responsibility or power to implement change.

This has implications for who does the meeting. Sending along junior staff from teaching development units to meet with deans and heads of department is completely inappropriate. In the two universities, on which this advice is based, the consultants were full Professors. These had appropriate status, the expertise and experience to give appropriate advice and the ability to set up the institutional evaluation system.

Start by asking the teachers or department for their interpretation of the data. It is better if diagnoses come from them, so that you do not have to create the impression of coming along to present a report card. Have your own diagnosis ready though, as many find it easier to rely on those who are used to interpreting such data.

Data should be treated as indicative, rather than absolute, and needing intelligent interpretation in the particular context of the program. Ask if there are contextual influences which could affect results. It is important that results are treated as indicators to be interpreted in context, rather than absolute data. The meetings, therefore, should take the form of interactive dialogues. The aim should be to identify strengths, which could be built upon, and which could inform other sections of the university, by being models of good practice. There should also be an attempt to identify potential areas for improvement. If there is agreement on these, an action plan should be formulated.

Take into account all available data. This will include other available evaluation data, such as qualitative data from sources such as staff-student consultative committees. It also includes perceptions of staff in the department about their program. This is legitimate and useful information.

Start with praising positive aspects—there is usually something to be found. Try to build on strengths, rather than asking for weaknesses to be remedied. If in a faculty meeting with several departments, look for models of good practice in constituent departments.

Try to tack improvements onto changes which will have to take place anyway. Academics are reluctant to make major changes for the sake of it—they have better things to do. Examples of potential prompts are starting a new program, the need to obtain accreditation or the need to change the curriculum because of major changes in the field. The experience on which this advice is based took place in Hong Kong while it was about to undergo a change from three to four year undergraduate degrees, which made it possible to pursue major renovation and quality enhancement initiatives. In the case of the specific initiative which is the subject of this chapter, the obvious change to refer to is the major transition to blended and online learning following the Covid outbreak.

There should be some record of what was discussed and agreed in the meeting. This should note positive aspects from the evaluation. Ideally it should address aspects conducive to improvement through an action plan for dealing with them.

18.7 Conclusion

There has been a logical flow through Part III. Chapter 13 suggested many teachers and their universities had found it difficult to adapt online and blended learning following the onset of Covid-19, particularly those which lacked prior experience of teaching through the online mode, so had no models of good practice to follow. The problem has become ongoing, as blended teaching, with significant online components, has continued to be standard practice in the new normal.

Chapter 14 provided a model of good practice in online and blended learning with four pedagogical elements: bite-sized videos of interest and relevance; learning materials which were well organised and provided a clear learning roadmap; discussion forums which were set up and moderated so as to result in lively student–student and student–teacher interaction; and; online teachers being approachable and responsive to communication with individual students through email, phone and online communication platforms. Chapters 15 and 16 showed how award-winning teachers implemented this model for online and blended learning respectively.

The purpose of this chapter has been to outline a targeted evaluation scheme to help other teachers make their online blended teaching more aligned with that of the award-winning teachers. The next chapter takes a considerably broad approach to implementation of online and blended learning and the role of management and support services in ensuring the retention and success of online and blended learners.

Acknowledgements Copyright in the Online Learning Support questionnaire is owned by David Hicks and David Kember (© David Hicks and David Kember, 2022). Readers are encouraged to make use of the questionnaire for purposes of research and the evaluation of teaching and learning, provided that due acknowledgement is made and this chapter in the book is cited in any resulting publications.

References

- Dziuban, C. D., Hartman, J. L., & Moskal, P. D. (2004). Blended learning. *Educause Center for Applied Research Bulletin*, 7.
- Kember, D. (2009). Promoting student-centred forms of learning across an entire university. *Higher Education*, 58(1), 1–13.
- Kember, D. (2020). Implementing a university-wide evaluation system to promote student-centered learning. In S. Hoidn & M. Klemensic (Eds.), *Routledge handbook on student centred learning and instruction in higher education* (pp. 528–540). Routledge.
- Kember, D., & Ginns, P. (2012). *Evaluating teaching and learning: A practical handbook for colleges, universities and the scholarship of teaching*. Routledge.
- Kember, D., & Leung, D. Y. P. (2005). The impact of the teaching and learning environment on the development of generic capabilities needed for a knowledge-based society. *Learning Environments Research*, 8, 245–266.
- Kember, D., & Leung, D. Y. P. (2009). Development of a questionnaire for assessing students' perceptions of the teaching and learning environment and its use in quality assurance. *Learning Environments Research*, 12, 15–29.

- Kember, D., Leung, D. Y. P., & Kwan, K. P. (2002). Does the use of student feedback questionnaires improve the overall quality of teaching? *Assessment and Evaluation in Higher Education*, 27(5), 411–425.
- Marsh, H. W. (1987). Students' evaluations of university teaching: Research findings, methodological issues, and directions for future research. *International Journal of Educational Research*, 11, 253–388.
- Marsh, H. W. (2007). Students' evaluations of university teaching: Dimensionality, reliability, validity, potential biases and usefulness. In R. P. Perry & J. C. Smart (Eds.), *The scholarship of teaching and learning in higher education: An evidence-based perspective* (pp. 319–383). Springer.
- Marsh, H. W., & Roche, L. (1993). The use of students' evaluations and an individually structured intervention to enhance university teaching effectiveness. *American Educational Research Journal*, 30(1), 217–251.
- Marsh, H., & Roche, L. (1994). *The use of students' evaluations of university teaching to improve teaching effectiveness*. Australian Government Publishing Service.
- Penny, A. R., & Coe, R. (2004). Effectiveness of consultation on student ratings feedback: A meta analysis. *Review of Educational Research*, 74(2), 215–253.

Chapter 19

Challenges of, and Strategies for, Implementing a Model of Supporting Retention and Success for Students in Online and Blended Programs



Robert A. Ellis and Si Fan

Abstract This chapter draws on key aspects of the preceding chapters and discusses the challenges and strategies for providing institutional support for students in online and blended courses. Australian universities nowadays need to cater for a diverse student body, with an increasing proportion of students studying in online and blended programs. Whether a university is operating with a contemporary or a traditional model of admission, they are required to deal with an increasingly diverse student body and provide a support system that promotes student satisfaction and success across diverse learner groups. Traditionally, Australian universities emphasise six categories of equity groups when considering student diversity. This chapter argues for a more holistic view of designing support systems for *all* students, broader than just the defined equity groups. It describes student support needs from pastoral, social, and academic perspectives. Strategies such as the design of university support services, centralised and distributed models, locations of services, and disciplinary contexts of students are also discussed using ecological thinking and principles. The chapter recommends a whole university approach and a change management mindset and offers practical suggestions on how to achieve these. Lastly, the chapter discusses key features and criteria that can be used to inform a university support framework that can cater for our increasingly diverse student population.

R. A. Ellis (✉)
Griffith University, Brisbane, Australia
e-mail: r.ellis@griffith.edu.au

S. Fan
Faculty of Education, University of Tasmania, Launceston, Australia
e-mail: si.fan@utas.edu.au

19.1 Introduction

It is clear from the preceding chapters that the change in remit for Australian universities from providing education to only those who met high academic threshold levels, to a remit that is about educating a more diverse student body, has created challenges that need to be addressed by the very way universities are organised to support students. A more diverse student body arising from Government policy changing the ground rules on which universities are funded, however, is not the only driver behind effective student support systems. Others involve the mission of the universities, the communities they serve, and the innovations in pedagogy, such as the move of a significant portion of the student learning experience online. Together, these drivers suggest how pastoral, social and academic support services need to be designed for different cohorts of students if they are to be effective.

Changes required to support students are more obvious in universities who have developed more contemporary models of course admission and delivery, those that offer a program profile that is predominantly online. The actual experience of learning online for at least part of the student experience changes how students want and need to access and use support services. Students are vocal that services designed for campus-based experiences generally do not translate effectively for students who are studying online. The changes are less obvious for universities who will continue to offer a large percentage of their student experience on campus. The thesis pursued in this chapter is that no matter whether a university offers a student experience which is predominantly online, or one that is a mixture of on campus and online, student satisfaction and success across all equity groups and the broader student population will be enabled by a redesign of student support services to meet student needs both on and off campus. The challenge then is to understand the intent and shape of that redesign, and the purpose of this chapter is to offer some ideas towards addressing that challenge.

19.2 Drivers for Increased and Targeted Student Support Services

Within the policy work for increased and targeted student support services in Australian universities, some have sharpened understanding about the needs of particular categories of students. The Australian government policies described in Chap. 2, for example, have clarified equity categories of students and sought to improve the impact of support services through adjusting the performance frameworks and indicators by which the universities received their funding.

19.2.1 Australian Government Equity Policy

We saw that a wider remit for educating a more diverse student body can be traced back to the dissolution of the binary system of higher education by Dawkins in the 1980s (Dawkins, 1988). There was earlier work on equity issues for indigenous students and other issues, but the Dawkins reform was a line in the sand for a significant restructure of the higher education sector. Since then policy development has helped to define the space of access and support to categories of student needs. However, the argument has moved on from the early days where the emphasis of equity was primarily on access. A refinement of the strategy over the last decade has been on not *just* access, but also on progression, outcomes and success. In this chapter, discussions around the support needs of students focus more on how to help them once they are in their programs, how their pastoral, social and academic needs can be provided in timely and holistic ways, rather than on their initial access.

An influential equity policy document (DEET, 1990) identified key equity groups in higher education, and despite continued contestation over the last few decades, these continue to this day. These equity groups are students who:

- identify as indigenous;
- are from low SES (socioeconomic status) locations;
- who report a disability;
- are women in non-traditional disciplinary areas;
- are from regional and remote locations; and
- are from non-English speaking backgrounds (NESB) (DEET, 1990).

While these groups have been emphasised in government equity policy and reviews as requiring particular support since the 1990s, all university students typically need some form of pastoral, social and/or learning support during their candidature in order to remove impediments that could otherwise prevent them from being successful (Thomas et al., 2021). The funding focus on these equity categories have highlighted some key dimensions of support services from which these groups will benefit during their candidature.

19.2.1.1 Indigenous Students

- Who designs the support for indigenous students has proven to be a significant issue. Reviews into support for indigenous students (Behrendt et al., 2012; Moreton-Robinson et al., 2011) have stressed the importance of including Aboriginal and Torres Strait Islander university staff and their leadership in the design of support service provision to indigenous students;
- where the responsibility for indigenous support in a university lies has also proven to be an issue. Too often responsibility for meeting the needs of indigenous students has been left to Indigenous support centres on the periphery, rather than a ‘whole-of-institution’ approach to addressing indigenous needs; and

- overall, indigenous students require meaningful, additional support to improve their academic preparedness in ways that recognise their contribution to the culture of the university (Liddle, 2016).

19.2.1.2 Low SES students

- This category of students is identified in Government metrics by postcode, a metric which has long been observed to be less than satisfactory (McKay & Devlin, 2016). For example, students from low SES postcodes once enrolled in university tend to outperform students with similar ATARs in high SES postcodes (Harvey & Burnheim, 2013);
- many students in this category are the first in family to attend university and often lack the navigational capital and educational cultural capital to easily navigate university systems, compared with those who are not first in family and are able to use their social networks to translate academic processes;
- the needs of students from this and all equity categories tend to be multifaceted and involve multiple intersections of disadvantages that can present complex barriers (Berliner, 2005; McMaster & Cook, 2019). This category includes the long-term unemployed and single parents, groups who may benefit from services such as academic literacy and numeracy preparation and child care services; and
- it is most likely that the students in this category requiring their support needs to be met in a timely manner (whether it be pastoral, social or learning support) is the main issue rather than any particular type of support that is implied by the category.

19.2.1.3 Students Requesting Disability Support

- Support for this group remains an important and sensitive area in terms of management of privacy issues. In the original policy, the Australian Vice-Chancellors were concerned about the wisdom of including this as a category and only agreed to trial it for a period and yet it has continued to this day (Martin, 2016).
- Understanding the learning support needs of this category is a complex undertaking as classification systems tend to oversimplify needs and can overlook the real requirements of students in this category (Fletcher et al., 2018).
- Despite the difficulties, in an age of technological growth, there are many obvious support strategies that can enable students in this category, strategies that can support the learning of a much wider group of students (for example, alternate modes of course delivery to overcome logistical issues, transcripts of video broadcasts, different media used to present the same theoretical ideas) (Ahmed, 2018).

19.2.1.4 Women in Non-Traditional Fields

- A key purpose of this category is to address gender discrimination.
- Strategies put forward to support this equity group include promoting non-traditional career occupations, bridging and extra curricula courses in mathematics and science, provision of adequate child-care services, and flexible course designs and arrangements (Bell, 2016).
- A key target in the past decade in this area has been the growth and regeneration of the Higher Degree Research workforce by improving academic career paths and opportunities for women, a target which suggests particular types of support services including advanced academic research methodologies and writing.

19.2.1.5 Students in Regional and Remote Areas

- This category of students has attracted particular attention in the last few years (Naphthine et al., 2019), which led to recent initiatives such as the jobs ready package.
- Current aspirations include doubling the chances of students in this category to participate and succeed in bachelor level qualifications, regardless of personal circumstances and location.
- Strategies recommended in the Naphthine report include improving financial and other hardship barriers, flexible study options through new modes of course delivery, offering work-integrated learning opportunities in regional areas, uncap funding for Indigenous students in regional rural and remote areas.

19.2.1.6 Students from Non-English Speaking [NESB] Backgrounds

- In the original investigations into this equity category, defining the needs of this group by the linguistic background was too fragmented to work effectively to target their needs.
- A subsequent policy investigation (Martin, 1994) defined NESB as having three components: domestic students born overseas, in Australian for less than ten years, speaking a language other than English at home. The appropriateness of this description attracts ongoing criticism.
- The support needs of this group particularly include academic orientation and enculturation, particularly in understanding different forms of academic writing and numeracy, and there is some evidence that they are less inclined to participate in group learning because of the literacy exposure the learning activities necessitate (Clark et al., 2018).

19.2.1.7 Support Needs of All Students

The above observations about the aspirations and support needs for each of the equity groups are only meant to be illuminative of the types of issues that each group face. In the literature, there has been ongoing awareness that these are not necessarily the optimal list of categories that address issues of equity across the sector (Coates & Kraus, 2005; Gale & Tranter, 2011; Patfield et al., 2022). Over the last few decades, it is clear that the outcomes for these categories have been below expectations with relatively little sustained qualitative difference (Harvey et al., 2015). The variation suggested by even these observations, however, emphasises the need for universities to find sustainable strategies which aim to address *all* categories of students, both those in equity groups and in the wider student population who may not fall into any of the targeted groups.

This chapter is conceived of at a different hierarchical level to most current debates on this topic in the sector. It focuses more at the level of each university and the student perspective on support needs in order for them to progress and succeed, rather than at the level of the sector and how to improve participation in university programs overall. In this context, the contribution of the chapter to the literature can be understood as an elaboration about support for progression, outcomes and success, one that adds to already significant research on the extent to which access has been widened for equity groups to enrol at university. To pursue this idea, the following describes an approach to designing support needs for *all* enrolled students, including the needs of students in the equity categories. ‘Pastoral, social and academic support services’ is used as a collective phrase and is meant to capture what a university should aim to provide holistically to the student body, whether they are from an equity category or not. This phrase comes from the analysis of the student experience in Chap. 12 of this book and the previous related research (Ellis et al., 2019).

19.3 University Organisational Design, Services and Support Mechanisms

The previous chapters in this book described different models of course admission and delivery across four universities, which for the purposes of an analytical comparison, have been put on a continuum of traditional models (predominantly on campus) to a contemporary model (predominantly online) with a couple of universities somewhere in the middle (see Fig. 19.1).

In designing pastoral, social and academic support services in the context of each of these universities, there are useful interrelationships to recognise between the model of admission and course delivery and the design of the student support services. It would be erroneous and too simplistic to argue that traditional support models are more centralised in nature and that contemporary models are relatively more articulated. In practice, a wholly centralised *or* distributed model of support

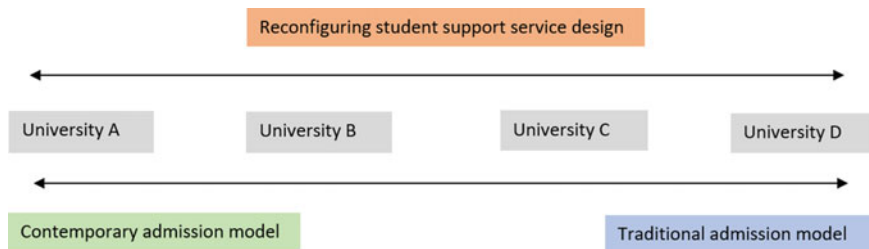


Fig. 19.1 Continuum of university support service design vs. admission models

service delivery could occur in universities that verge towards traditional models or contemporary models. More useful is ensuring that key aspects of university organisational design, those that help to encourage coherent outcomes for support services, are brought to the surface and considered when implementing an approach. Within such an approach, the question of *where* support services sit is a key issue in their design.

A useful way to think about where the design of service and support delivery across large universities should lie is apparent in the tension of deciding amongst local, bespoke, individualised support to students. This helps to clarify which services require a relatively deep understanding of the immediate learning context in order to be useful, and which services can benefit from the economies of scale and sustainability of services by delivering them to tens of thousands of students using a centralised model. To have all services and support delivered locally is not sustainable for universities as the variation in student needs is too great to meet. Equally problematic would be to try to provide all support centrally as the type of services provided may be so generic so as to meet the needs of all stakeholders, but because they are necessarily generic, they do not really address the varied issues being faced by the students.

Another consideration about the location of support service provision is whether the student is predominantly studying online, or whether they come to campus sufficiently in order to access the support services they require. Clearly, students studying wholly online predominantly require support services wholly online. Students studying in blended programs can alternate between online and face-to-face provision. Students in blended courses can also benefit from the services provided to students in online courses, but the reverse is not true. These practical observations help to shape an informed approach to service design and delivery.

A further consideration for the design of support services is the disciplinary context of the students. Designing pastoral, social and academic support services across universities with multiple disciplines is a complex exercise. Disciplinary variation and how individual students respond to their studies means that the disciplinary issues could impede their progression and success are unpredictable in many ways, including what is needed (for example, numeracy in the hard sciences and financial studies), in timing (when students need the support), in sequence (in what order they need it), and in what context the need arises (where the support should be delivered).

While questions of the admissions model, mode of program delivery and disciplinary variation may influence the design of support services, there was no evidence in Chap. 12 from the student interviews that students understood or cared from what organisational unit in the university support was available. For those who sought out support, they simply wanted to access it in order to resolve their issues. For others, they tended to know they needed help, but did not seek it out for various reasons. Consequently, in terms of a design approach to support service delivery, both the student interviews in Chap. 12 and the observations of numerous commentaries on the equity categories above suggest that a whole-of-institution and articulated approach to service delivery across central and local areas is a key feature necessary for effectiveness, including both online and face-to-face provision. While this may be easy to say, to achieve this in practice is difficult. To consider how to adopt a whole-of-institution and integrated approach to the design of support service delivery, the following draws on the idea of ecological thinking for educational contexts and service design in universities (Ellis & Goodyear, 2019; Radnor et al., 2014).

19.3.1 Ecological Thinking for Student Support Service Design and Delivery

Ecological thinking is not a phenomenon restricted to educational contexts. The roots of the study of ecology can be found in environmental studies, and extended to other fields such as anthropology, archaeology, psychology, organisational studies and economics, just to name a few (Odum & Barrett, 1971). In these areas, the idea of an organism in its environment is a common motivation for the adoption of the framework as it helps to emphasise contextual factors which too often can be overlooked in understanding the ontology and epistemology of phenomena.

In the field of higher education, the idea of *ecology* has been used to understand the student experience of learning (Ellis & Goodyear, 2010) and the organisational design of universities (Barnett, 2018; Ellis & Goodyear, 2019). In these contexts, there is an educational purpose to the phenomenon. For the student, it is about an aspirational idea of keeping all the parts of the learning experience in balance so that the process and progress towards learning outcomes are as swift and illuminating as possible. For an educational institution, like a university, it is also the aspirational idea about keeping all the parts of the institution in equilibrium around the notion of learning (an umbrella concept in which research, service, and teaching, the core business of a university, can all find a home). In both cases, ecological thinking suggests that key aspects of an ecology of learning include:

- maintenance of an ecological balance around a concept of learning;
- the development of self-awareness of how parts of the educational ecology are related to the whole;
- the ongoing pursuit of feedback to inform self-awareness—especially about roles and functions within an ecology; and

- the capacity of self-correction required to ensure (re)alignment in a rapidly changing context (Ellis & Goodyear, 2010).

For the student, the intent behind the first point above is a drive to *understand*, a characteristic of learning which has been systematically shown to be inextricably entwined with deep learning (Biggs & Tang, 2011; Marton & Booth, 1997; Prosser & Trigwell, 1999; Trigwell & Prosser, 2020). While it may seem obvious, there are too many studies which have shown that many students do not hold onto an intent to understand while learning and are distracted by many other things in the learning environment. The second point is about seeing the meaning between the parts of the experience, how activities relate to the learning outcomes, how key concepts explain the topic under study in transformative ways, how the understanding that comes from the interrelatedness of the concepts and activities can be applied in new and unforeseen contexts successfully. The third and fourth points are about motivation and drive to continually pursue understanding and the learning outcomes, not allowing things to get in the road, and to seek out feedback from the learning environment in order to overcome any barriers, whether they be emotional, mental health, cognitive or practical.

For a university, the idea underpinning the first point is that all organisational parts of the institution understand that their mission is to enable learning in the broadest sense for all their stakeholders. For the second, it is that each service unit understands their role in the organisational design of the university and what role they need to play in order to help the university achieve its remit for learning. For the third, it is that they actively seek feedback from the environment in order to understand how to keep their function and operations in balance around a remit of learning; and for the last, that they have sufficient ability and capacity to self-correct when they receive feedback that the context has changed or their operations are impaired.

If we apply the idea of ecological thinking to pastoral, social and academic support service delivery for students, and we think about some of the responses from the students in Chap. 12, then principles for the design of such a service would include the following:

- that no matter what type of support the students are seeking (pastoral, social, academic), the ultimate goal underpinning the student's request in the context of their studies is *learning* and the outcomes they seek upon graduation in preparation for the next stage of their life;
- that no matter whether a student goes, for example, to their teacher for assessment explanations, a counselling service for mental health advice, a financial service for accommodation, a first-year student event to meet peers or an academic literacy service to understand assessment schedules and how to write an essay, each of those people and/or support areas need to be aware of the role of their support in the successful progression and lifecycle of the student experience, from orientation through to graduation;
- that as the contextual factors change, each of the support service units needs to pursue feedback from their environment, such as systematic, detailed survey responses from students on the services delivered, seeking as much meaningful

empirical data they can access, and feedback from university leadership on the remit and role of their organisational unit in a whole-of-university approach to support service delivery; and

- that as they receive that feedback, they are capable of adjusting their support service delivery mechanisms to ensure that they continue to have an impact through the services that their unit is supposed to be supporting in terms of student outcomes.

While the above ideas about educational thinking are framed in a whole-of-university approach, and they offer some ideas at the level of the different pastoral, social and academic support activities that make up a student support service model, they alone are insufficient without educational leadership that nurtures the direction and remit of each unit providing support and the support framework as a whole at the level of the university. To understand what that might look like, the following section considers organisational aspects of universities that need to be aligned if a holistic, integrated support model is to be achieved.

19.4 University Leadership for Student Support Service Delivery

Effective student support service delivery in a contemporary context of ongoing change in government policy and delivery modes requires a change management mindset. The argument pursued in this chapter and recent research is that the increasingly diverse student population of universities requires universities to change in their approach to supporting the student experience in order to ensure the success of *all* students (Thomas et al., 2021). Achieving enduring cultural change that shifts whole university systems to a new equilibrium is a difficult and ongoing challenge for universities in an international context of constant flux.

To prepare for the challenge of a changing mindset, useful organisational aspects of universities that leaders can manage in order to achieve systemic, ongoing change include: strategy, governance, policy, management and funding (Ellis & Goodyear, 2019). The following considers these in the context of reconfiguring pastoral, social and academic support service delivery within a university.

19.4.1 Strategy

One of the first things to clarify within a university when getting ready for a strategic change management process is the extent of agreement about terminology. This can be a difficult issue within a university, particularly if there is ongoing contestation at a national level. Nationally, the Australian government publishes data under the framework of the 2003 Higher Education Support Act (Australian Government,

2003), which describes academic progress in four parts: *attrition*, the proportion of domestic bachelor students who do not complete or return in the next year; *retention*, the proportion of commencing students to return in the following year; *success*, the proportion of subjects passed each year as a percentage of all subjects attempted; and *completion*, the proportion of student who completed a course in any year across the given time period. While these are necessary to include at a strategic level, they are not designed to identify the specific needs of all students (Gale & Parker, 2013). To change a culture holistically, broadening definitions, and identifying causes, of retention and success is a useful lever to alert stakeholders to the decision of a university leadership intent of making a difference.

A key instrument in changing the student experience at the level of a university is the university learning and teaching strategy. In a context of competing interests and values, if a goal is not included with targets in the university strategy, it is unlikely to receive the sustained attention that it requires in order to succeed (Beckley, 2014). For this reason, a whole-of-university approach to pastoral, social and academic support services should be an explicit goal of universities seeking to make a difference in this area. In planning the strategy, agreed terminology and definitions behind the targets used as performance measure is essential. Without these, there is little hope of sustained progress. So too is an assessment of the extent of alignment of university governance and management processes, its policy framework and availability of funding that can be used to support university activity in this area. Universities willing to consider these questions recognise that student retention, progression and success is not just the responsibility of a student alone, but an equally important responsibility of the institution (Thomas et al., 2021).

19.4.2 Governance and Management

The strategic business of a university is typically overseen by its governance committee structure. When a pastoral, social and academic support service model is a goal in the university learning and teaching strategy, then some careful consideration of where the oversight for progress towards an effective support framework in a committee structure is required. If responsibility for the development of the framework is located in a committee too detached from the details of operations, then the committee is unlikely to have enough oversight understanding to deal with the issues. If the responsibility for progress of a support framework is allocated to a committee which is too low in the university governance structure without sufficient oversight, then this can be equally problematic. A careful balance of proximity to activity and authority needs to be achieved.

Effective leadership through governance to enable a rethink of service delivery would involve working with each organisational unit delivering pastoral, social and academic support to take account of the students' learning contexts, as well as the student representatives of the student body. To achieve transformational buy-in from across a university, including leaders of the areas responsible for providing support

and advice on the governance committee would increase the chances of changes being adopted.

Furthermore, to address the complexity of service delivery in blended and online contexts, the governance committee would need to have members who understand the reality of blended and online experiences of learning, and how these contexts practically shape the service delivery. For example, depending on the topic of a counselling session, it may be much more effective to offer this face-to-face where possible, whereas for financial advice about scholarships or accommodation, this type of service may be able to be effectively delivered online.

An effective governance committee would need to continually seek student feedback in how they wish to access support services. For example, if we take the unanticipated observation of students in Chap. 12 about the role of the online teacher, then in fully online course designs, the online teacher becomes a key conduit for students in knowing about and accessing the support services they require. As a consequence, the design of support services to be effective would have to take into account the role of the online teacher in helping students to make sense of the range of services available at different stages of their candidature.

19.4.3 Policy

To effect sustained institutional change, the university's policy framework can be both a help and a hindrance. When including pastoral, social and academic support services as a strategic goal, significant innovation is likely to be required in the redesign of service delivery. Effective leaders will need to ensure that the existing policy framework does not hinder or impede innovation and experimentation. Policy frameworks for learning and teaching in general are quick to reinforce quality assurance and loath to encourage innovation. However, changes in redesigning services so that students in both blended and fully online contexts can access and benefit from them are not straightforward and will require significant experimentation before quality frameworks can be overlaid on them.

19.4.4 Funding

Funding allocations for student support services can be often tied to historical decision-making frameworks and sometimes pots of strategic monies provided by the government in the context of performance benchmarks. These allocations and sources may not necessarily align with the types of investment a university is required to make if they are redesigning support services across blended and online experiences of learning with an eye on sustainability.

To understand changes that might need to be made in the funding strategy, the idea of service design is helpful (for e.g., Gallouj & Toivonen, 2011; Steen et al., 2011). *Service design* can be glossed as a recognition that *services* can be as much a legitimate outcome of a design process as a product. The design process of a service is often distinctly different to a product in that it benefits from being co-produced with stakeholders, it typically requires the design of an interface for the service and that the service sits on an infrastructure. If a support service for thousands of students has been traditionally delivered face-to-face across a counter, funding understandably for this type of service is likely to be predominantly realised in salary costs. If a university support unit needs to redesign a face-to-face service for online students, then the design process and ensuring rollout is likely to involve the three components mentioned; involvement of stakeholders, interface design and new infrastructure on which the service is delivered. Consequently, for a university strategy to succeed in a redesign of support service delivery at scale, governance and management approaches will need to take into account different funding strategies across multiple service units, often shifting funding from operational to capital sources, which can be hindered by financial leaders reluctant to change the categorisation of large portions of the budget.

19.5 Key Features and Criteria for a University Support Framework

If leadership for an effective support service framework for *all* students can be described in terms of managing the above key aspects of university organisational design, then important questions for universities include:

- (a) What are the key features of a pastoral, social and academic model of service provision for student retention and success in online and blended program designs?
- (b) Which support services are best delivered locally, and which are best delivered centrally for the most effective outcomes from the framework?
- (c) What are the methods for students in different learning modes to access the support services?
- (d) How can feedback close the loop for ongoing improvement both at the level of each support unit providing a service, and at the level of the whole support service framework meeting the needs of all students?
- (e) Are the key university organisational elements (strategy, governance, management, policy and funding) sufficiently agile to self-correct based on cyclical feedback systems?

First, when decisions need to be made regarding the features of a support model, universities should not only draw on significant research cited in this book and in other sources, but also set up systematic, cyclical feedback with students to inform

service provision. Unpacking the ongoing needs of all students, including the equity categories, is a non-trivial exercise.

Next, criteria to help inform where services are best delivered include disciplinary expertise, economies of scale and specialised knowledge and skills. Student support service roles are best distributed with consideration and recognition of people's disciplinary expertise. All programs have discipline-specific issues often requiring additional support. For instance, students in the disciplines of nursing, teaching education, and medicine are likely to need placement-preparation support services. Students studying in accredited programs are likely to need support in understanding the requirements of the accreditation bodies. These support services would best to be provided by teachers in the specific programs, given the requirement for discipline-specific knowledge, expertise and networks.

While there may be exceptions, services to support students about issues outside of their academic study can be usefully provided centrally and benefit from economies of scale. This includes counselling services. Hosting a counselling team at the central level is a much more sustainable approach than funding a separate counsellor for every college, school or program. This would also allow a service at the university level to balance the resourcing needs in providing such services to multiple parts of the university, which are likely to have varying levels of needs in these areas.

Specialised support services, those that require support staff with specialised professional knowledge which is not disciplinary specific can often be usefully provided centrally. For instance, universities may not be able to recruit a separate indigenous teacher for every college, school or program. If such expertise and knowledge are provided as part of a university wide central unit, program directors will be able to draw on their specialised knowledge to improve the indigenous progress and success. A partnered approach between the unit and programs in faculties will also allow such specialised teams to oversee initiatives and activities relevant to their remit that are happening across faculties at their university.

In addition to the distinction between centrally and locally provided services, there is also the decisions about how students access the services. Students' learning modes should be considered a significant factor. As emphasised earlier, students in blended and online programs are likely to need different pathways in accessing support, due to their different ways of interaction with the course. Similar to the criteria for deciding whether the support should be centrally or locally provided, this chapter argues that situational appropriateness is important in ensuring the delivery of effective services. Some universities have larger percentages of online and blended students compared to others. Understanding their own student cohorts and support needs is an essential early step in developing a support framework.

A related observation about students in online programs is the role of the teacher in guiding students to support services. If the unanticipated theme reported by students in Chap. 12 proves to be common across most student experiences in online programs, then a support service framework at the level of a university would be most effective if this role is factored into its design, designed in such a way that there is little effort for online teachers in knowing what is available for students and how it can be accessed by students. For teachers delivering the same course over a number of

teaching periods, it is possible that similar themes of support may arise amongst their different cohorts, allowing them to deal with the learning issues more systematically, and the pastoral and social issues more effectively.

Finally, if we recognise that the university organisational elements of strategy, governance and management, policy and funding are useful tools in developing a change management mindset for the culture of a university, then effective leadership will ensure that each of the elements is able to respond to cyclical feedback about the ongoing needs of student support services. It will only be through careful attention within and across each of these areas in relation to each other that significant cultural change can be achieved for the development of a successful pastoral, social and academic service framework to support student retention, progression, and success.

19.6 Conclusion

This chapter discussed some key challenges and issues in designing a university-wide support service framework for students which aims to improve retention, progression and success in blended and online programs. With an increasingly diverse student body continuing to be a feature of the system, the support needs of all students are growing. Effective support needs to be provided, both to those in the prioritised higher education equity groups as well as the wider student population. This chapter provided some insight into how ecological thinking can inform the delivery of pastoral, social and academic support services for all students and how such an approach can be used to inform the development and implementation of a holistic university support framework. Using some of the ideas in this chapter, the next chapter summarises key ideas in all the chapters and proposes a synthesised model to improve retention and success for students in blended and online programs.

References

- Ahmed, A. (2018). Perceptions of using assistive technology for students with disabilities in the classroom. *International Journal of Special Education*, 33(1), 129–139.
- Australian Government. (2003). *Higher education support act 2003*. <https://www.legislation.gov.au/Details/C2022C00005>
- Barnett, R. (2018). *The ecological university: A feasible utopia*. Routledge.
- Beckley, A. (2014). Widening participation to disadvantaged groups: One university's approach towards targeting and evaluation. *International Studies in Widening Participation*, 1(2), 2–14.
- Behrendt, L., Griew, R., & Larkin, R. (2012). *Review of higher education access and outcomes for Aboriginal and Torres Strait Islander People—Final report*. Commonwealth of Australia.
- Bell, S. (2016). Ivory towers and glass ceilings: Women in non-traditional fields. In A. Harvey, C. Burnheim, & M. Brett (Eds.), *Student equity in Australian higher education* (pp. 109–123). Springer.
- Berliner, D. (2005). Our impoverished view of educational reform. *Teachers College Record*, 108(6), 949–995.

- Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university*. McGraw-Hill Education.
- Clark, C., Kusevskis-Hayes, R., & Wilkinson, M. (2018). Enhancing student disclosure: Australia's invisible equity students and reasons for nondisclosure in Australia's tertiary sector. *JANZSSA - Journal of the Australian and New Zealand Student Services Association*, 26(1), 3389.
- Clarke, J., Zimmer, B., & Main, R. (1999). Review of the under representation in Australian higher education by the socioeconomically disadvantaged and the implications for university planning. *Journal of Institutional Research in Australasia*, 8(1), 36–55.
- Coates, H., & Krause, K. L. (2005). Investigating ten years of equity policy in Australian higher education. *Journal of Higher Education Policy and Management*, 27(1), 35–47.
- Department of Education and Employment and Training (DEET). (1990). *A fair chance for all*. AGPS.
- Dawkins, J. (1988). *Higher education: A policy statement*. Australian Government Publishing Service.
- Department of the Prime Minister and Cabinet. (2015). *Closing the gap Prime Minister's report 2015*. Australian Government.
- Department of Education, Skills and Employment, [DESE]. (2020). The job-ready graduates higher education reform package 2020 discussion paper. Department of Education, Skills and Employment.
- Ellis, R., & Goodyear, P. (2010). *Students' experiences of e-learning in higher education: The ecology of sustainable innovation*. Routledge.
- Ellis, R., & Goodyear, P. (2013). *Students' experiences of e-learning in higher education: The ecology of sustainable innovation*. Routledge.
- Ellis, R. A., & Goodyear, P. (2019). *The education ecology of universities: Integrating strategy, learning and the academy*. Routledge.
- Ellis, R. A., McDonald, C. V., & Le, A. H. (2019). The student experience of support at university. In D. Kember & R. A. Ellis (Eds.), *Admission and success for low SES university students: Report on a HEPPP 2018 National Priorities Pool Project*. Canberra: Department of Education, Skills and Employment.
- Fletcher, J., M., Lyon, G. R., Fuchs, L. S., & Barnes, M. A. (2018). *Learning disabilities: From identification to intervention*. Guilford Publications.
- Gale, T., & Parker, S. (2013). *Widening participation in Australian higher education: Report to the Higher Education Funding Council of England (HEFCE) and the Office of Fair Access (OFFA), England*. CFE Research.
- Gale, T., & Tranter, D. (2011). Social justice in Australian higher education policy: A historical and conceptual account of student participation. *Critical Studies in Education*, 52(1), 29–46.
- Gallouj, F., & Toivonen, M. (2011). Elaborating the characteristics-based approach to service innovation: Making the service process visible. *Journal of Innovation Economics Management*, 2, 33–58.
- Harvey, A., & Burnheim, C. (2013). Loosening old school ties: Understanding university achievement and attrition by school type. *Professional Voice*, 9(2), 29–36.
- Harvey, A., Andrewartha, A., & McNamara, P. (2015). A forgotten cohort? Including people from out-of-home care in Australian higher education policy. *Australian Journal of Education*, 59(2), 182–195.
- Liddle, C. (2016). First peoples: Aboriginal and Torres Strait Islander participation in higher education. In A. Harvey, C. Burnheim, & M. Brett (Eds.), *Student equity in Australian higher education* (pp. 53–68). Springer.
- Martin, L. (2016). Framing the framework: The origins of a fair chance for all. In A. Harvey, C. Burnheim, & M. Brett (Eds.), *Student equity in Australian higher education* (pp. 21–37). Springer.
- Martin, L. M. (1994). *Equity and general performance indicators in higher education*. Australian Government Publishing Service.
- Marton, F., & Booth, S. A. (1997). *Learning and awareness*. Psychology press.

- McKay, J., & Devlin, M. (2016). Low income doesn't mean stupid and destined for failure': Challenging the deficit discourse around students from low SES backgrounds in higher education. *International Journal of Inclusive Education*, 20(4), 347–363.
- McMaster, N. C., & Cook, R. (2019). The contribution of intersectionality to quantitative research into educational inequalities. *Review of Education*, 7(2), 271–292.
- Moreton-Robinson, A., Walter, M., Singh, D., & Kimber, M. (2011). *On stony ground: Governance and Aboriginal and Torres Strait Islander participation in Australian Universities. Report to the review of the higher education access and outcomes for Aboriginal and Torres Strait Islander People*. Department of Education, Employment and Workplace Relations.
- Napthine, D., Graham, C., Lee, P., & Wills, M. (2019). *National regional, rural and remote tertiary education strategy—final report*. Australian DET.
- Odum, E. P., & Barrett, G. W. (1971). *Fundamentals of ecology*. Saunders.
- Patfield, S., Gore, J., & Weaver, N. (2022). On 'being first': The case for first-generation status in Australian higher education equity policy. *The Australian Educational Researcher*, 49(1), 23–41.
- Prosser, M., & Trigwell, K. (1999). *Understanding learning and teaching: The experience in higher education*. McGraw-Hill Education.
- Radnor, Z., Osborne, S. P., Kinder, T., & Mutton, J. (2014). Operationalizing co-production in public services delivery: The contribution of service blueprinting. *Public Management Review*, 16(3), 402–423.
- Steen, M., Manschot, M., & De Koning, N. (2011). Benefits of co-design in service design projects. *International Journal of Design*, 5(2), 53–60.
- Thomas, L. et al. (2021). Student Retention: the need for institutional change. In S. Mahsood, S. Kift, & L. Thomas (Eds). *Student Retention and Success in Higher Education: Institutional Change for the 21st century*. Palgrave MacMillan.
- Tones, M., Fraser, J., Elder, R., & White, K. M. (2009). Supporting mature-aged students from a low socioeconomic background. *Higher Education*, 58(4), 505–529.
- Trigwell, K., & Prosser, M. (2020). *Exploring university teaching and learning-experience and context*. Palgrave MacMillan.
- Walton, T., & Carillo, F. (2017). Mechanisms for fulfilling equity targets at the elite Australian university: A review of scholarship and practice. *Widening Participation and Lifelong Learning*, 19(2), 156–162.

Chapter 20

Conclusion



David Kember

Abstract This chapter draws together the key themes which have emerged through the book. Key conceptual themes, which have emerged from the research, are presented, in a logical sequence, so as to reveal the logical progression of the thesis presented in the book. The way in which the student intake to higher education has been expanded and diversified is explained. There is a discussion of how the diversified intake can be supported if they are to achieve retention and success. A model is presented and illustrated of how teachers can provide support to online and blended learners through four high quality pedagogical elements. The chapter synthesises key constructs into a model of retention and success for online and blended learners. The chapter concludes by discussing the implications of this work for ongoing research and practice; particularly with respect to the large-scale adoption of blended learning, which is happening post-COVID.

20.1 Overview

The planning of this book aimed to present a thesis which builds and develops in a coherent way through the book. There are several distinct threads to the progressive argument which we have attempted to weave together. This concluding chapter attempts to draw together, in a relatively succinct way, the progressive strands which flow through the book.

The conclusion is in three parts. The first part presents, in a logical sequence, the key conceptual constructs which underpin the developing thesis. Each key construct is summarised as a step in an advance in research into retention and success in online and blended learning. Collectively, the constructs form a set of principles for supporting the expanded and diversified student body which has been able to be admitted following the introduction of key elements of open learning, particularly the provision of online learning.

D. Kember (✉)
Gravelly Beach, Australia

The second part of the chapter attempts to synthesise selected key constructs into a model of retention and success for online and blended learning. The significance of this part of the book is, therefore, in discussing the relationship between key concepts drawn from throughout the book. The synthesis or modelling is of significance, because, as discussed in Chap. 9, there are no well-established linear process models for retention and success in online and blended learning (Bowles & Brindle, 2017; Delnoij et al., 2020; Lee & Choi, 2011; Muljana & Luo, 2019), which have been accorded the established and highly cited status of Tonto's longitudinal process model (Engstrom & Tinto, 2008; Tinto, 1975, 1987, 1993, 2012, 2015) for attrition from face-to-face or on campus learning.

The third main part considers implications for research and practice for the present and future. Throughout the book, research has been constantly intertwined with practice. Research findings presented in the book have been derived from investigations into practice and research outcomes are presented in ways in which they can inform practice. This main part of the concluding chapter concentrates on extrapolating beyond the bounds of the book's research context and forward into the future.

20.2 Expanding and Diversifying the Student Body Through Open Learning

The concept of open learning owes its origins to the formation of the Open University of the United Kingdom. The late Prime Minister, Sir Harold Wilson, was determined to found a university that provided a second chance to the many who had been unable to gain entry to higher education (Dorey, 2015). At the time, higher education was still best classified as an elite system (Trow, 1973, 2005).

The establishment of the Open University was a radical departure from the way in which universities were envisaged and operated at the time, all around the world. The impact and significance can be established by quoting from Bill Bryson's (1995) conclusion to *Notes from a small island*.

What other nation in the world could possibly have given us William Shakespeare, pork pies, Christopher Wren, Windsor Great Park, the Open University, *Gardeners Question Time*, and the chocolate digestive biscuit? None, of course (Bryson, 1995, p. 379).

The radical departure from the established model of higher education came about through the adoption of open learning. At the time this was a much-discussed concept (e.g. Kember, 1995; Thorpe & Grugeon, 1987). Some definitions of open learning included lengthy lists of characteristics (e.g. Lewis & Spencer, 1986). However, this was criticised as confounding the concept (Kember & Murphy, 1990; Rumble, 1989). The ability of the Open University to provide a second chance to those who had not been able to gain admission to conventional universities can be attributed to three key facets of open learning. It is also these key three key facets of open learning,

which have enabled dual-mode universities to expand and diversify their intakes, as discussed in Chap. 4.

The first of the key facets of open learning is open entry. Taken literally, open entry implies that anyone can be admitted regardless of past educational achievements. In practice, it is commonly interpreted as providing alternative pathways, such as mature entry or special admission schemes, for those who lack the qualifications for admission schemes which rely on secondary school performance.

The second key facet of open learning, which is the most important one for this book, is freedom over where study takes place. No longer requiring students to come onto campus to attend classes opened admission to many who are unable or unwilling to commit to on-campus study. Freedom over where study took place was provided by adopting forms of distance education. Technological advances, including the provision of the Internet, have seen online learning become the dominant form of distance education.

The third key element of open learning is flexibility over when study takes place, meaning that study is not tied to fixed class schedules. This facet of open learning needs to be interpreted as a degree of flexibility, rather than complete freedom. Higher education still retains constraints, such as semester schedules and assessment deadlines. Flexibility over when study takes place is provided in two ways. Firstly, the asynchronous nature of online learning means that students can choose to study at times that suit them. Secondly, the provision of part-time study means that students can fulfil other obligations, which would not be possible if they were full-time students.

The combination of the three key facets of open learning permitted the expansion and diversification of the student body. The degree of open entry provided opportunities to those whose academic performance at secondary school did not reach the level set for conventional entry schemes. The combination of freedom over where to study and flexibility over when study takes place, permitted mature students who had commitments to families or employment, to continue with them while at the same time studying through online learning.

20.3 The Spectrum from Traditional to Contemporary Models of Admission and Course Delivery

The UK expanded and diversified its intake to higher education by founding the Open University with its principles of open learning. Some other countries have followed this strategy by founding a national open university dedicated to open learning. Other educational systems have not followed this model, but have instead relied on existing universities to modify their approaches to cater for a diversified and expanded intake.

For some reason, the concept or literature of open learning seems to be largely restricted to national open universities and does not appear to have been widely employed for the alternative approach to expanding and diversifying the intake

through existing universities. To discuss the way in which universities can expand and diversify their intake, we introduced the concept of a continuum between universities with traditional and contemporary models of admission and course delivery (Kember & Ellis, 2022). It needs to be stressed that the labels ‘traditional’ and ‘contemporary’ are, for this construct, restricted to admission and course delivery; a university labelled ‘traditional’ may be innovative in other respects.

Chapter 4 characterises the distinction between the traditional and contemporary models. Universities at the traditional pole of the continuum, until the outbreak of COVID-19 at least, taught principally on-campus. As a result, undergraduate students normally resided on, or close to, campus during term time. These universities’ admission policies relied heavily on selecting applicants who performed well in secondary school assessment. As the majority of students entered directly, or soon after, leaving school, the undergraduate population was mostly in the 18 to 24 year age group.

Universities at the contemporary end of the spectrum are those which have adopted, to a significant degree, the three key facets of open learning. Particularly important is the provision of online learning. Universities which have shifted close to the contemporary spectrum have adopted online learning to the extent that they have become dual-mode universities. As is shown in Chap. 4, the shift towards a contemporary model of admission and course delivery results in a student body that is considerably more diverse.

20.4 From Defined Disadvantages to Multiple Associate Challenges

Chapter 4 presents a table of selected demographic characteristics of undergraduate students at four universities which ranged across the spectrum from traditional to contemporary for admission and course delivery. The table shows very clearly that, moving across the continuum, the student body transforms from a relatively young and homogenous population in the traditional university, to a considerably more diverse group in the university which had adopted a contemporary model of admission and course delivery.

The case studies included in Chap. 5 show much more graphically just how diverse the student body in the university with the contemporary model had become. In particular, the provision of online learning meant that mature students could continue in employment and dealing with family responsibilities, while at the same time studying from their homes.

The marked distinction between the characteristics of the student cohorts in the traditional and contemporary model universities led to a consideration, in Chap. 5, of whether alternative frameworks for the equity agenda might be more appropriate. The review in Chap. 2 shows that the Australian Government has advanced the equity agenda through a series of reports and policy formulations. The primary focus of these

initiatives has been on six defined disadvantaged groups (Department of Education, Skills and Employment, 2020).

- Those from a non-English speaking background;
- Students with disability;
- Women in non-traditional areas;
- Those who identify as Aboriginal and Torres Strait Islanders;
- Students from low SES locations, based on the statistical areas of permanent home residence; and
- Those from regional and remote locations, based on statistical areas of permanent home residence.

The demographic characteristics table in Chap. 4 and, more graphically, the case studies in Chap. 5 as well as the discussion of rural, regional and remote students in Chap. 6, though, suggest that the adoption of a contemporary model of admission and course delivery has resulted in the student body struggling with many issues outside of the list of the six defined disadvantages. Furthermore, the students were having to deal with the many issues they faced simultaneously. We, therefore, coined the term **multiple associated challenges acting in concert**, as a characterisation of the issues in diversity faced by the student body of the university which had adopted a contemporary model of admission and course delivery.

The six defined disadvantages are set in legislation. They form a long-standing set of performance indicators by which universities' equity recruitment can be assessed. It, therefore, seems probable that the six defined disadvantages will continue as the official standard.

The literature reviews in Chaps. 2 and 8 observed that the equity literature focuses on the six defined disadvantages. However, for the purposes of analysing and interpreting changes to the student cohort in higher education following the expansion and diversification made possible by the adoption of three key principles of open learning, the six defined disadvantages appear too restrictive. For this book, therefore, we have not referred to specific disadvantages, but instead referred to the expanded and diversified intake to higher education. For the forms of disadvantage they experience, we have adopted the concept of multiple associated challenges acting in concert.

20.5 Coping Mechanisms Needed for Off-Campus Study

Chapter 4 argued that the adoption of three key elements of open learning, and particularly online learning, makes possible an expansion and diversification of the student intake. Online learning implies that study takes place without on-campus classes, but rather at an off-campus location. For most online students, this means that study takes place in the home, with perhaps a small number being able to study at work or another location.

Chapter 5 showed that the adoption of the three key principles of open learning could make the student body very diverse indeed. In particular, the more diverse

student body contains mature students who have to continue with family and employment responsibilities, so need to fit in study demands alongside these other commitments. The combination of studying at home, while facing multiple associated challenges acting in concert, poses study demands which are both more taxing and different in nature to those faced by students who study primarily on-campus.

Chapter 6 presents evidence that the way students deal with multiple associated challenges acting in concert, while studying at home, is through the adoption of coping mechanisms. Chapter 6 presents a framework which includes three mechanisms of sacrifice, support, and the negotiation of arrangements. The mechanisms operate in the domains of the self, families, and work. The framework is presented as a mechanism by domain grid. Chapter 6 uses interview quotations to illustrate and substantiate the cells in the grid.

20.6 Retention and Success Are Complex Multivariate Phenomena

Part I of the book has progressively presented an analysis and discussion of how the student body in higher education can be expanded and diversified. Chapter 4 argued that expansion and diversification could be achieved through three key principles of open learning, of which freedom over where to study via online learning was particularly important. Chapter 4 further showed that dual-mode universities could take this track by adopting a contemporary model of admission and course delivery. Chapter 5 produced evidence that the adoption of the contemporary model resulted in a very diverse student body, which faced multiple associated challenges that acted in concert. Chapter 7 argued that students needed to adopt coping mechanisms to deal with these challenges while studying online from home. Part I has, therefore, shown that diversifying and expanding the student body has had a significant impact on the configuration of higher education, the nature of the student body, and the study process.

Part II examined student retention and success. Chapter 9 reviewed the literature on attrition. The review noted that it is not possible to predict retention and success from the enrolment characteristics of the student body with any degree of statistical or practical utility. Instead, attrition is a complex multivariate phenomenon, which is heavily influenced by all the factors that come into play throughout the period it takes for a student to complete (or not complete) a course of study. The most influential and highly cited model of attrition is the linear process model of Tinto (1975, 1987, 1993, 2012, 2015) and Engstrom and Tinto (2008). However, this model was derived from research into on-campus teaching, originally at a time when higher education was essentially an elite system. The model includes social and academic integration constructs for promoting retention, which have commonly been operationalised through direct student–student and student–teacher contact (Ahn & Davis, 2020; Anderson, 2016; James et al., 2010; Kelly & Mulrooney, 2019; Kuh et al., 2008;

Moore, 1973, 1989; Trowler, 2010). Chapter 9 further concluded that there is not, as yet, an adequate version or adaptation of the Tinto model for online or blended learning in the era following the diversification and expansion of the student body (Bowles & Brindle, 2017; Delnoij et al., 2020; Lee & Choi, 2011; Muljana & Luo, 2019).

The book attempts to make advances towards a model of retention and success applicable to online and blended learning and cognisant of the characteristics of the student body following the expansion and diversification of higher education. Chapter 10 compares Structural Equation Modelling (SEM) models for universities with traditional and contemporary models of admission and course delivery. The variables in the models were restricted to those in the student record databases, or ones readily derived from those variables. A comparison of the two models showed that the adoption of a contemporary model had resulted in a more complex model of higher education.

Chapter 14 developed and tested a SEM model showing how teachers can support the retention and success of their online and blended students. The model contained four pedagogical elements which together provided a supportive online environment. The four pedagogical elements were: bite-sized videos of interest and relevance; learning materials that were well-organised and provided a clear learning roadmap; discussion forums that were set up and moderated so as to result in lively student–student and student–teacher interaction; and; online teachers being approachable and responsive to communication with individual students through email, phone, and online communication platforms. The model showed that this supportive environment promoted the formation of virtual learning communities, with social and academic integration components. Chapters 15 and 16 provide qualitative substantiation and illustration of the model for online and blended learning respectively.

The final stage in progressing the modelling of retention and success in online and blended learning is presented in the final part of this chapter. A model will be proposed which draws on key constructs from throughout the book.

20.7 Online and Blended Learners Rely on Their Teachers for Support

The previous section noted that Chap. 11 questioned whether institutions had sufficiently adapted student support services to cater for a diverse student body studying online, following the adoption of a contemporary model of admission and course delivery. Chapter 12 considered the student perspective on student support services and revealed that they felt that support services were designed to cater for those who came on-campus, rather than online learners.

To envisage online students' perceptions of support needs it is necessary to consider the student experience. Online study normally takes place in the home,

which, as shown in Chap. 5, results in multiple associated challenges which have to be dealt with. It is significant that, as shown in Chap. 7, the coping mechanisms adopted involve partners, families, and workmates, rather than institutional support services.

The virtual study environment of online students includes a presence from the teacher. There may be varying levels of interaction with other students, depending on how engaged students are with discussion forums and activities. Existing student support services did not seem to be perceived as having a presence in the virtual study environment. The teacher is the most significant presence in the student's perceived virtual study environment. It is, therefore, not surprising the online students look to their teachers for support as well as instruction. It is also notable that there is established literature showing that online students rely on their teachers for support more than on-campus students do (see Chap. 8).

20.8 Teachers Can Support Online and Blended Learners Through Promoting the Formation of Virtual Learning Communities

Revealing that online students rely largely on their teachers for support then poses the question as to how teachers can provide that support. The answer does not come from consideration of support for on-campus learning and teaching. Many on-campus teachers envisage their role with respect to support to be largely restricted to providing referrals to central student support services. When support is embraced, it is normally through the frameworks of student engagement (Ahn & Davis, 2020; Anderson, 2016; Kelly & Mulrooney, 2019; Moore, 1973, 1989; Trowler, 2010) or the first year experience (James et al., 2010; Kuh et al., 2008). These frameworks were developed as means to help students develop social and academic integration through becoming an integral part of the college community. The issue here, though, is that the accepted means of promoting integration has been through student–student and teacher–student interaction on-campus.

Chapters 14, 15 and 16 present a detailed qualitative and quantitative explanation of a model of how teachers can promote the formation of virtual learning communities for their online and blended students. The model in Chap. 14 hypothesised that a supportive virtual environment was built through the presence of four pedagogical elements which are of high quality. Chapters 15 and 16 provide interview quotations, exemplars from Learning Management Systems (LMSs) and explanations which illustrate the four pedagogical elements, so that teachers have a detailed model to follow for their own teaching.

20.9 Developing Models of Blended Learning for the New Normal

The evidence for the model of teachers providing support through the four high quality pedagogical elements came largely from fully online courses in a university with a long history of online teaching and learning (see Chaps. 1, 14, 15 and 16). The blended learning exemplars in Chap. 16 were from a course in which the online component closely followed the design of the four pedagogical elements.

The international case studies of universities adapting to the onset of COVID-19, presented in Chap. 13, though, suggest that the forms of online learning adopted by universities, as they struggled to cope with students being unable to come on-campus, were quite varied. Furthermore, they commonly differed, and often quite markedly, from the four pedagogical element model. Moving into the new normal, it appears highly likely that many universities will continue to include a significant online component in their teaching, though most would seem likely to benefit from guidance as to how it is configured. There also appears to be a considerable need for exploration of the form of the on-campus learning component of blended learning for the new normal. The remainder of this section provides some insights drawn from Part III. The final part of this concluding chapter also highlights this topic as an important one for research and the development of practice.

The first issue to be addressed is that the established format of online learning is asynchronous. Chapter 4 points out that the major contribution of online learning to open learning and to diversifying the intake to higher education was its asynchronous nature, which permitted the enrolment of those unable or unwilling to commit to a fixed class schedule. The four pedagogical elements of the model exemplified in Chaps. 14, 15 and 16 are all based on asynchronous online learning in which learning materials are pre-prepared and made available through an LMS.

The case studies in Chap. 13, though, suggest that, following the onset of COVID-19, the adoption of synchronous forms of online learning has been quite common. The most likely explanation is that face-to-face teaching has been used as a model, with lectures being delivered through online communication platforms. Another contributing explanation could be that universities lacked a sophisticated LMS. If the online component is synchronous, students are unable to study at a time of their convenience. It also becomes far harder for students to work through at their own pace and review the material until understood. Pre-recording learning material is also an important consideration for teachers, as it permits careful advance planning and preparation, thus following one of the four components of the online pedagogical support model.

There are also clear pointers from the other three pedagogical components as to the format of the online component of blended learning. The bite-sized videos and learning materials component calls for pre-recorded learning materials in small manageable chunks. The clear lesson here is that the face-to-face model of 50 min lectures, traditional to higher education, is not a model which should be continued for online and blended learning in the era of the new normal.

The other two pedagogical elements of the online teacher support model are for teachers interacting with individual students and groups of students. For the group interaction, teacher-student and student-student interaction takes place through discussion forums and activities on an LMS. Assistance to individual students is provided through email, phone, and online communication platforms. The case studies in Chap. 13 suggest that these two pedagogical elements did not commonly feature when universities adapted to COVID-19. Yet, as Chap. 16 argued, blended learners needed these two pedagogical elements to guide them through the learning materials online. Chapters 14 and 15 produced clear evidence that teacher interaction with both individuals as well as groups of students is essential for online learners.

The model of teacher support with four pedagogical elements, introduced in Chap. 14 and illustrated and substantiated in Chaps. 15 and 16, was developed from research into online learning. The model needs further development if it is to be fully suited to the forms of blended learning being adopted by universities in the new normal. The nature and role of the face-to-face on-campus component needs to be explored and integrated into the model. A firm conclusion of Chap. 13 was that the on-campus component would be of most value if it featured interaction, activity, connectedness, and practical work. The challenge is to design and develop such forms of on-campus learning and to ensure that they maximise teacher-student and student-student interaction and integrate fully with the online component to constitute a meaningful learning experience.

20.10 Online and Blended Learners Can Be Integrated Into Virtual Learning Communities

The review of research on attrition in Chap. 9 noted that the most influential and widely cited model of attrition was that of Tinto (1975, 1987, 1993, 2012, 2015; Engstrom & Tinto, 2008). The Tinto model posits that retention can be promoted through students achieving social and academic integration with the college community. However, the research on achieving integration had examined how it could be promoted through direct student-student and student-teacher contact on-campus (Pascarella & Terenzini, 1980), which is how practical programs to promote integration had been implemented by universities.

For online and blended learners, it is, therefore, important to demonstrate that integration can be achieved in a virtual environment through the formation of virtual learning communities. The model presented in Chap. 14 has the formation of a virtual learning community as the outcome phase, with the integrative mechanism being the four pedagogical elements. Chapter 17 provides rich qualitative evidence of the formation of virtual learning communities. Evidence is presented of how peer student support can play an important role in the formation of virtual learning communities.

The Tinto model (1987, 1993) separates social and academic integration, with discrete tracks for achieving the two forms of integration. Chapter 9 argued that

this separation did not appear realistic for online learning. The interview evidence in Chap. 17 suggests that, for online students, social and academic integration are intertwined. Academic integration occurs as online students become engaged in discussion forums and activities. At the same time, they start to form social bonds with their peer students.

Establishing that online and blended learners can be supported by the formation of virtual learning communities is an important advance. Learning online in the home has commonly been visualised as a process which happens in isolation. The loneliness of the online learner is undoubtedly a feeling which many have experienced, and surely contributes to high rates of attrition from online learning (Bawa, 2016; Carr, 2000; HESP, 2017; Kember et al., 2019; Levy, 2007; Tello, 2007). Showing that virtual communities of online and blended learners can form, and more importantly showing how their formation can be promoted is, therefore, a significant step forward in advancing retention and success in online and blended learning.

20.11 Supporting Online Students

Australian universities with substantial proportions of fully online students are dual-mode universities that have shifted significantly towards the contemporary pole of the spectrum for admission and course delivery. A shift across the spectrum can be equated to adopting a degree of the three main elements of open learning (see Chap. 4) with the effect of expanding and diversifying the student intake. The online student cohort, therefore, can also be described in terms of the characteristics of an expanded and diversified intake. Study issues and support needs arising from the online mode of study will, therefore, be compounded by the multiple associated challenges typically faced by the expanded and diversified intake (see Chap. 5).

Chapter 12 examined students' experiences of support for online students. It was clear that online students relied primarily upon their teacher for support to a much greater extent than on-campus students. This finding was confirmed by the literature (see Chap. 8). Chapters 14, 15 and 16 present, with detailed illustration, a model of how the teacher can provide support to online students through four high-quality pedagogical elements.

Chapter 17 showed that peer students can also be a form of support for online students. The mechanism for peer student support was through online interactions, which could result in the formation of virtual learning communities. Teachers have a role to play in promoting these online interactions, primarily through well-moderated discussion forums (Chaps. 15 and 16).

Online study takes place in the home. Chapter 5 showed that online study at home was commonly accompanied by multiple associated challenges. Typically, mature students studied online because of the flexibility over when and where study can take place. These mature students then had to accommodate demands from childcare and employment alongside the requirements of online study. The way in which these multiple challenges and demands were tackled is analysed in Chap. 7

as a coping mechanism framework, with mechanisms of sacrifice, support, and the negotiation of arrangements, operating in the domains of the self, family, and work. The framework, therefore, provides evidence of support for online students from family and, occasionally, workmates.

The interviews with students at the university with the contemporary model of admission and course delivery, therefore, produced abundant and rich evidence of online students receiving support from their teachers, peer students, families and, to varying degrees, their workmates. When it comes to positive accounts of support for online study from central support services, though, the interviews were essentially silent (Chap. 12 and Kember et al., 2022). Central support services seemed to have little effective presence in the virtual environment of study in the home.

20.12 Aligning Student Support Services with the Characteristics and Study Patterns of Students

The construct of the spectrum from traditional to contemporary models of admission and course delivery has been drawn on throughout the book. Shifting across the spectrum results in marked changes to student characteristics (Chaps. 4 and 5), challenges faced by students (Chaps. 5, 6 and 7), and patterns and modes of study (Chaps. 15 and 16).

Chapter 11 compared institutional student support services in four universities, ranging across the traditional to contemporary spectrum. Analysis of the feedback on support service provision suggested that the alignment between student support service provision and student support needs decreased with the move across the spectrum towards the contemporary end. Models of admission and course delivery had altered markedly, and with them, student characteristics and support needs. However, models of institutional student support had not changed to a corresponding degree, so alignment between student support needs and student support provision decreased across the spectrum. It appeared that there was still undue influence from the traditional university model of providing on-campus support, to a largely traditional student body, with special provision for defined equity groups.

This analysis suggests that as universities move across the spectrum from traditional to contemporary to admit an expanded and diversified student body, there needs to be a broadening of perspective on the provision of student support services, leading towards an organisational cultural shift over how student support services are envisaged. The guiding principle of universal service design should be drawn on to cater for the varied and complex needs of the whole of the expanded student body. The whole-of-university inclusive framework is needed to better align support with student needs.

The most significant disjunction between support provision and student needs arose over the high proportion of online students at the university with the contemporary model of admission and course delivery. While instruction and study had moved online, student feedback in Chaps. 11 and 12 suggests that student support services remained focused around the on-campus base. Chapters 11 and 12 and Kember et al. (2022) suggested that student support services found it hard to establish a viable presence in the virtual study environment of online students. Bulk emails were not an effective medium for providing support. For better alignment between support services and online student needs, support provision needs to be re-envisioned.

20.13 Implementing Better Aligned Systems for Student Support

Chapter 19 deals with the challenges for universities, and their managements, in implementing student support systems aligned to the needs of online and blended learners. The chapter advocates an ecological-thinking approach to keeping all parts of the university in balance, functioning as a whole in pursuit of its core functions. Chapters 12 and 19 make it clear that there is not an ideal model for student support provision to move towards. Rather, all universities need to appraise their own characteristics and circumstances in moving towards better-aligned systems for student support services. These considerations will include factors such as the position of the university on the spectrum of admission and course delivery, the characteristics of the student body, and the modes of course-offering prevalent in the university. Each university, therefore, needs to evolve towards student support services aligned to the needs of its own students.

The ecological approach outlined in Chap. 19 seems eminently suited to the process of universities attempting to transform student support services to be better aligned with the needs of students. A key feature of the ecological approach, which is necessary for better alignment to be achieved, is the capacity for self-correction. The context of higher education has been evolving quickly, particularly since the onset of COVID-19, with the shift to online and blended learning a significant feature of the changing context. Self-correction is clearly necessary for student support services to be better aligned with the needs of online and blended learners.

Self-correction requires the systematic and ongoing pursuit of feedback to guide the process and direction of self-correction. This gathering of feedback needs to take an open and exploratory approach, similar to the stance taken by the research reported in this book, if it is to uncover practices and perspectives not currently aligned with the current context. It also needs to be pointed out that available feedback needs to be listened to. University managements need to be open to feedback from teachers and researchers, as these sources are often more aware of student perspectives.

20.14 Methodological Issues

The research reported in the book is of interest because of the variety of research methodologies employed and the diverse perspectives which that research has enabled them to portray. The research in the book is also of interest in that it has attempted to produce a coherent report from a series of loosely-linked projects with many participants, who were even more loosely-linked.

Chapter 1 gave an introductory overview of the set of interviews conducted with online and blended learning students at UTAS. The questioning in the interviews was broad, open, and responsive, so as to allow the student perspective to emerge. The interview data were sufficiently rich and diverse that they supplied the data for the various topics covered in Chaps. 5, 6, 7, 11, 12, 14, 15, 16 and 17.

The nature of the interviews was consistent with the overall exploratory and naturalistic approach which guided the overall study. The researchers involved in the initial project knew enough about their students to realise that exploration of the student experience of online and blended learners needed to be sufficiently open and flexible that it would encompass the wide range of topics that impact online study in the home and not narrowly focus on online pedagogy.

The interview data were then analysed by a range of methodological approaches. Chapter 12 used phenomenography to reveal and compare a limited number of categories of student conceptions of student support services. Chapter 5 developed rich case studies to reveal the multiple associated challenges faced by the expanded and diversified intake to higher education. The predominant research approach in the remainder of the chapters which drew upon the qualitative interviews was an exploratory, naturalistic grounded theory approach. The researchers examined the data to investigate diverse themes which appear to be in the data (see Chap. 1). The themes, analysis and findings were what appeared to the researchers as having emerged from the student perspective in the data. This is the classical exploratory and naturalistic approach to grounded theory as originally described by Glaser and Strauss (1967), rather than one of the approaches to grounded theory propounded since, which rely upon templates or prescriptive heuristics (Pratt et al., 2020).

The main quantitative form of analysis employed in the book has been Structural Equation Modelling (SEM). SEM is an appropriate statistical approach because it permits the examination of the complex multivariate problems revealed by qualitative analysis. This ability meant that SEM could be used in conjunction with the qualitative data. For example, Chap. 14 tested a hypothesised SEM model derived from preliminary analysis of student interview data on the experience of online learning. Chapters 15 and 16 then illustrated and substantiated the model with interview data.

20.15 Synthesising a Holistic Model of Retention and Success in Online and Blended Learning

The second part of this concluding chapter draws upon many of the key conceptual constructs, which have been summarised in the first part of the chapter, and attempts to synthesise them together into a holistic theoretical model of retention and success in online and blended learning. The elements or conceptual constructs placed in the model have been well established by the research presented through the book. The remaining challenge is to envisage a convincing way in which they can be combined, into a related whole, in a way which provides a compelling theoretical explanation of retention and success in online and blended learning.

The synthesised model draws on the Tinto (1975, 1987, 1993, 2012, 2015; Engstrom & Tinto, 2008) model for retention and success in face-to-face or on-campus learning. Chapter 9 reviewed the model and considered ways in which it might be adapted to suit the quite different learning and teaching environment of online and blended learning. The crucial difference between the modes of study, in this instance, is that, in the absence of direct teacher-student and student-student face-to-face contact, online and blended learning takes place within a virtual environment.

The synthesised model is presented in Fig. 20.1 and discussed in the remainder of the chapter. Each component of the model will be discussed, drawing on both the earlier part of this chapter and the relevant preceding chapters in the book. The main purpose of this part of the discussion is to justify the incorporation of the component into a model of retention and success. This will also require a discussion of the model as a whole, as it is formulated as a linear process model and, as such, needs to be conceptualised as an integrated whole.

The testing and development of SEM models have been featured in three chapters. These models have also been widely discussed in many other chapters of the book. Chapter 1 includes a guide to interpreting SEM models and the conventions by which they are displayed graphically. For consistency, it, therefore, makes sense to present Fig. 20.1 using the conventions of SEM models.

The ovals in SEM models represent factors or latent variables. For the purposes of this theoretical model, they are best envisaged as constructs. The factors have indicators which, for our purposes here, can be interpreted as facets of the constructs. The arrows represent causal influences from one construct to another.

20.16 The Phases of the Model

The diagram of the model in Fig. 20.1 portrays it as being a four phase model: initial phase, adaptation phase, integration phase and outcomes. The initial phase portrays the characteristics of the students as they commence their course. The adaptation phase includes the researched elements from the book which explained how

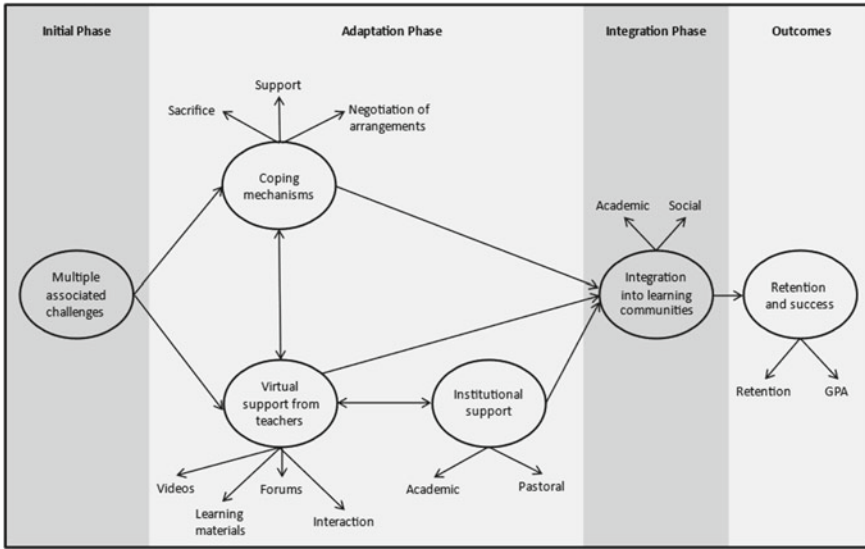


Fig. 20.1 A synthesised model of retention and success in online and blended learning

the students learn to cope, and can be helped to cope, with studying through the online and blended learning mode. The next phase is the integration phase, in which students become integrated into virtual learning communities. The final phase is for the outcomes of retention and success.

The phases of the model have a parallel with the stages of Van Gannep’s (1960) rites of passage, which were drawn on by Tinto (1987, 1993). Van Gannep labelled the initial stage *separation*. For online and blended learners, separation does not take place. They do not leave their existing community because of commitments to families and employment, so remain in their homes where study takes place. According to Tinto’s interpretation of Van Gannep’s theory, the lack of separation will tend to mean that students experience weaker ties to a student community than that enjoyed by full-time on-campus students, making attrition more likely. The second stage of Van Gannep’s rite of passage was *transition*, which has a close parallel with the adaptation phase of Fig. 20.1. There is also a close relationship between the *incorporation* stage of Van Gannep’s rites of passage and the integration phase of our synthesised model. Integration into learning communities is envisaged as a precursor to retention and success.

There is also a parallel for the phases of Fig. 20.1 in the 3P model, which is commonly associated with Biggs (2011), but originated with Dunkin and Biddle (1974). The three Ps of the model are presage, process and product. The original writing about the 3P model interpreted it in terms of on-campus study. The three parts of the 3P model closely correspond to the initial, adaptation and integration phases of our model. The interpretation, however, is substantially different, in view of online and blended learning being the mode of study to which our model applies.

20.17 Multiple Associated Challenges

The model of student progress needs a starting point, which logically focuses on the students at the beginning of their course of study. The Tinto model starts with a component for entry characteristics. The 3P model, similarly, begins with pressage. Both the Tinto and 3P models were envisaged for an era of on-campus teaching, with mainly young, full-time students. The initial parts of both models have normally been operationalised in terms of common demographic entry characteristics, of the type collected in student record systems.

The starting point of the model in Fig. 20.1 reflects a quite different student cohort. As was explained in Chap. 4, the introduction of three key elements of open learning, and particularly online learning, permits the expansion and diversification of the student body. Diversification results in a student body with different and much more diverse characteristics, to the extent that Chap. 5 has used the label “multiple associated challenges acting in concert”. This is, therefore, an appropriate label for the element in the initial phase of our synthesised model.

20.18 Coping Mechanisms

The next three elements of the synthesised model are in the adaptation phase. This phase can be seen as the key to retention and success, as it is in this phase where students adapt or learn to deal with the demands of online or blended learning. Unfortunately, many do not manage to adapt and end up as being part of the attrition statistics. It is the adaptation phase which turns Fig. 20.1 into a linear process model.

The starting point of the model is the multiple associated challenges acting in concert faced by the diversified intake to online and blended learning. Many of these multiple associated challenges involve students’ home and work environments. Chapter 7 produced evidence of students adopting coping mechanisms to deal with these issues that affected their personal, family, and work lives. Coping mechanisms were presented as a framework with three coping mechanisms: sacrifice, support, and negotiation of arrangements. Accordingly, the coping mechanisms component of the model is portrayed in Fig. 20.1 as being characterised by these three coping mechanisms as facets.

20.19 Virtual Support from Teachers

The virtual support from teachers construct is taken directly from the SEM model of Chap. 14, which was substantiated and illustrated qualitatively in Chaps. 15 and 16. The model had shown how the teachers could provide virtual support to online and blended learners. This, therefore, makes this component central to the adaptation

phase. The model showed that the support came from four high quality pedagogical elements: bite-sized videos of interest and relevance; learning materials which were well organised and provided a clear learning roadmap, discussion forums which were set up and moderated so as to result in lively student–student and student–teacher interaction, and online teachers being approachable and responsive to communication with individual students through email, phone and online communication platforms. These four pedagogical elements are, therefore, shown as the four facets of the virtual support from teachers construct.

20.20 Institutional Support

The institutional support construct refers to support provided by student support systems, which are usually sited centrally within a university. There is, though, some discussion in Chap. 19 as to whether institutional support services would be better decentralised to schools or colleges if a support model is adopted in which the teacher becomes the orchestrator of pastoral and some forms of academic support from support services staff.

There is solid research evidence for the first three components of the synthesised model: multiple associated challenge, coping mechanism, and, virtual support from teachers. Rich qualitative evidence is presented for all three in Chaps. 5, 7, 15 and 16. The virtual support from teachers component of the model is taken directly from the SEM model, in Chap. 14, of how teachers can support online and blended learners through four high quality pedagogical elements.

The institutional support component of the model, however, has, as yet, no research evidence to support its inclusion in the model. Chapters 11 and 12 actually present evidence that, in their current form, central or institutional support services do not provide effective support to online and blended learners. As the synthesised model is a theoretical or hypothesised model, though, it does seem worth including a component for institutional support. However, if a university's institutional student support services remain as central support services in the form described in detail in Chap. 11, they will be excluded from the model, as they do not effectively support the retention and success of online and blended learners. Inclusion in the model is conditional on the transition towards the type of model proposed in Chap. 19, in which student support services are aligned to student needs. It is also contingent on the support system being well implemented, so that effective support is in fact provided. This will be a demanding operation.

If the synthesised model of Fig. 20.1 is tested with SEM, which is a logical future step, it is unlikely that the paths to the institutional support latent variable will be statistically significant. Almost all students will experience multiple associated challenges, coping mechanisms and virtual support from teachers of varying quality. However, few are likely to enjoy institutional support, even if it does prove possible to implement an effective support system aligned to student needs, as the institutional support services are normally reserved for those with particularly demanding needs.

The relative magnitude of the student experiences of each component is, accordingly, likely to result in non-significance for the paths to the institutional support latent variable.

20.21 Integration into Learning Communities

Integration into learning communities is the component of the synthesised model which corresponds to the social and academic integration components of the Tinto model (1987, 1993). There is an important distinction, though, in that the learning communities of our synthesised model is virtual. The SEM model in Chap. 14 showed how the teacher could promote the formation of virtual learning communities for online and blended learners, through four high quality pedagogical elements. Accordingly, the synthesised model contains a path from the virtual support from teachers component to the integration into learning communities component, which represents the teacher promoting the formation of virtual learning communities.

The integration into learning communities component is shown with two facets of academic and social integration. There is a distinction here from the Tinto model, in which social and academic integration are in separate tracks, implying that the two forms of integration can and do occur independently. As is discussed in Chap. 9, this makes perfect sense for on-campus study, where students can form social affiliations which have no connection to their academic work. However, for online and blended learners, there are unlikely to be events or mechanisms devoted purely to socialisation. Virtual interactions between students and teachers and peer student interactions are focused on academic tasks. It is through these interactions that academic integration can be promoted in the virtual environment. Chapter 17 produced evidence that social and academic integration could occur simultaneously through interactions relating to academic tasks. Students can interact with each other through discussion forums and activities to the extent that bonds start to form. For online and blended learning, therefore, academic and social integration are intertwined.

20.22 Retention and Success

The component in the outcome phase is retention and success. This component is consistent with the Tinto model, as both are models of retention and success. The component is shown with the two indicators, or facets, of retention and GPA, which is the conventional and most convenient measure of success, though certainly not the only one. There is no doubt that mature students who commence their university courses with all the multiple associated challenges of the expanded and diversified intake to higher education, must measure their success in completing a course in much broader and more personalised terms.

The outcomes phase component of retention and success is shown with a causal path from the integration into learning communities component of the synthesised model. Testing of the Tinto model (e.g. Pascarella & Terenzini, 1980) has shown that achieving social and academic integration is a precursor to retention and success. It is, therefore, credible to hypothesise that the same causal link will operate for our synthesised model.

20.23 The Synthesised Model as a Whole

As with any model formulated as a SEM model, the whole synthesised model is more than the sum of the parts. The model is linked by arrows representing causal influences, which indicate that the components of the model need to work together to have an effect on the retention and success of students. If parts of the causal chain are not working effectively, the impact of other elements will be reduced or even nullified.

The model is holistic in that its operation encompasses five distinct environments. The first is that of the students themselves and the multiple associated challenges which characterise the student body following the expansion and diversification of higher education. The home environment is where online study normally takes place. It is here that students have to learn to cope with the multiple associated challenges acting in concert through the coping mechanisms of sacrifice, support, and negotiation of arrangements. The teaching and learning environment is a virtual environment central to the model, as online learners have been shown to be more reliant on their teachers for support than their on-campus counterparts. The model shows that teachers can provide support to online and blended learners through four high quality pedagogical elements. Institutional support is included in the model, in the hope that it can be transformed into an effective form of support through the implementation of a support system aligned to student needs. The final environment is that of the management of the system. The implementation of the model as a system that does provide support for the retention and success of online and blended learners, needs a management and organisational framework to ensure that each of the components or environments are effective and working in harmony. The management system needs to operate across the five environments, and, therefore, needs to be a multi-level organisational system with the levels and parts interacting harmoniously. It is also necessary for the management system to be dynamic and adaptive in order to adjust to a new normal which is already very different to the traditional model of higher education. The new normal itself will undoubtedly also be very changeable in the future.

20.24 Implications for Research and Practice

This third part of the concluding chapter discusses the way forward. The onset of COVID-19 forced universities worldwide to rapidly transform their practices in teaching and learning. Students' support demands also changed quite distinctly. Chapters 13 and 19 and higher education news outlets argue that, for many universities, the change will be ongoing, to what has been called the 'new normal'.

The book has consistently borne this scenario in mind. The findings in the book are all derived from rigorous research. This is, though, applied research, so the findings are both derived from practice and provide guidance in enhancing practice. Much of the book, and particularly Part III, has already discussed implications for practice in learning, teaching, and student support.

This part of the conclusion will aim to extrapolate to implications for research and practice in wider contexts. It will consider implications for universities which have traditionally taught largely on-campus. There will be a discussion of how the applied research presented in this book might progress forward in the future.

20.24.1 From the Contemporary Model to the New Normal as an Over-Arching Research Question

The initial thesis of the book was that adopting a contemporary model of admission and course delivery implied that major parts of course offerings were through online teaching and learning. Universities with contemporary models had extended periods in which they could gain experience and develop expertise in online teaching and learning. As such, the models of good practice presented in Part III are derived mainly from research into online learning in a university with a contemporary model. Major parts of the book refer to blended learning, though the online component in this blended learning draws on the expertise developed through fully online teaching and learning in the university with the contemporary model.

Many of the readers of this book will not be from universities that had adopted a contemporary model of admission and course delivery. Instead, they will be from universities which had to rapidly adapt to blended and online learning when COVID-19 struck. In many cases there will be an ongoing impact from the transition, as universities move to a new normal in which blended learning plays a significant role.

An overarching research theme emerges from this. The research and practice presented in the book was largely derived from a university which had adopted a contemporary model of admission and course delivery. A highly relevant overall research question is: how well do the findings about research and practice translate to contexts in which universities had not adopted a contemporary model, but now rely, to a significant extent, on blended and online learning in the new normal? This is obviously a very relevant question, but also a very big one. To make the question more manageable, in the following sections, it is broken down into sub-questions which relate to the parts and conceptual theses of the book.

20.24.2 A Diverse Student Body

Part I of the book dealt with the expansion and diversification of the student body. Chapters 4, 5, 6, and 7 characterised the expanded and diversified student body in higher education in terms of multiple associated challenges acting in concert, rather than the six defined equity categories. This in itself could provide an agenda for research and practice. The reviews in Chaps. 2 and 8 indicated that much of the literature on admission and support had been framed by the six equity categories. There is clearly a research gap around broader visions of student diversity. Student support services might consider whether their practices have adapted sufficiently from providing support to specific disadvantaged groups towards wider principles of universal care.

The more intriguing question is that related to the overarching research question in the section above. How well does the construct of multiple related challenges acting in concert create relate to the student body of the new normal?

There are several aspects to this question. Firstly, there is the characterisation of the student body. It was the adoption of a contemporary model of admission and course delivery which resulted in the student body with multiple associated challenges. But the new normal encompasses universities which would have been positioned towards the traditional end of the spectrum. It seems unlikely that universities in traditional part of the spectrum will abandon their admission policies of concentrating predominantly on students who had demonstrated high academic performance at secondary school. The student body is, therefore, likely to have less diverse characteristics than that of universities with the contemporary model. However, it is already clear that the student body in the new normal faces more complex and different issues to the student body in traditional universities pre-COVID. Research into the challenges faced by students in the new normal is, therefore, very relevant.

Chapter 7 introduced the concept of coping mechanisms adopted by the diverse student body. Most of the examples and illustrative quotations given in the chapter referred to mature students who had to study in their homes, while, at the same time, needing to maintain commitments to employment and family carer roles. The concept of coping mechanisms had been little researched at the time of writing the book. It appears to be an important factor in the retention and success of online and blended learners who study predominantly in their homes. Re-examining this construct in the context of the new normal could, therefore, be a project of real significance. It is possible that the three coping mechanisms of support, sacrifice, and negotiation of arrangements will still have validity, but will need to be adapted to different contexts, to a student body of a somewhat different nature, and to new forms of challenge.

20.24.3 Roles of Student Support Services in Supporting Retention and Success

Student support services were addressed in Part II and in Chap. 19. Student feedback presented in Chaps. 11 and 12 and in the literature in Chap. 8 suggested that central student support services needed to evolve from services which focused on on-campus support to services which catered better to the needs of online and blended learners who spend little, or no, time on campus. This in itself poses a major issue for evolving practice, and Chap. 19 discusses potential ways forward. It should also be a topic for linked evaluation and research. Support services can only know how effective their services are if they gather in-depth feedback on student perceptions of the extent to which the support provided meets their needs.

There is also clearly an issue for research and practice relating to the overarching question of support being provided to students in the new normal. There have been several major disruptions which pose both new challenges and support needs for students and hopefully new visions for providing that support. Chapter 13 suggests that even in universities which had traditional models of admission and course delivery, students will be spending less time on campus and relying more on blended learning. They will, therefore, face challenges which students would not have faced pre-COVID, and require revised forms of support. A significant portion of study will take place off-campus and in a virtual environment. Relying solely on student support services which function through face-to-face contact on campus can no longer be effective.

20.24.4 Adapting the Model of Teacher Support for Blended Learning in the New Normal

Chapter 14 presented a model, rigorously tested with SEM, which showed how teachers could provide support to online students through four high quality pedagogical elements: bite-sized videos of interest and relevance, learning materials which were well organised and provided a clear learning roadmap, discussion forums which were set up and moderated so as to result in lively student–student and student–teacher interaction, and; online teachers being approachable and responsive to communication with individual students through email, phone and online communication platforms. The supporting online environment of these four pedagogical elements could promote the formation of virtual learning communities with elements of both social and academic integration. Chapters 15 and 16 provided extensive qualitative substantiation and illustration for the model for online and blended learning respectively.

The SEM questionnaire testing data and the qualitative interview data came from the university with a contemporary model of admission and course delivery. The questionnaire data were gathered largely from students in fully online courses, as

was that for the qualitative data in Chap. 15. Chapter 16 did focus on students in a blended learning course, though it should be pointed out that it was one which fully implemented all four of the pedagogical elements of the model. Chapter 13 suggests that this has not been at all common in the new normal, as the blended learning component is commonly focused on the delivery of content.

A future agenda for research and practice, therefore, focuses on the degree of application of the model and on ways to adapt the model to better suit the context of blended learning in the new normal. For the implementation of practice, I would suggest the most important issue is for courses to fully utilise the discussion forums and teaching/student exchanges pedagogical element of the model, rather than just being seen as vehicles for delivering content. Chapter 14 established that the four pedagogical elements contribute equally to promoting the formation of learning communities. Chapter 16 showed clearly that students in blended learning courses needed these two pedagogical elements for both support and for helping them learn and understand the content.

The model may well need additional elements for blended learning because blended learning includes face-to-face on-campus classes, which ought to include interactive student-centred teaching (see Chap. 16) which can make a significant contribution to the formation of learning communities. Adapting the model in this way opens a door to a major agenda in research and practice for evolving the model to better suit the nature of the student experience and approaches to learning and teaching in the new normal.

There has already been some discussion of the on-campus component of blended learning in the new normal. A very important topic for applied research is the investigation of the forms of on-campus student learning experience which can best complement and enrich the online component. The online component is most suited to presenting content and learning materials. The value of the on-campus component is maximised if it focuses on teacher-student and student-student interaction, connectedness, active learning, and practical experiences. The on-campus experiences should be able to make highly significant contribution to developing and reinforcing learning communities, as a step towards promoting retention and success.

20.24.5 Implementation and Management Issues

The book has aimed to provide models of good practice for supporting the retention and success of online and blended learners. Chapters 14, 15 and 16 present quantitative and qualitative versions of a model of how teachers can support online and blended learners through four high quality pedagogical elements. Chapters 11, 12 and 18 suggest ways in which institutional support services might be configured to better support online and blended learners. There is, therefore, soundly-based applied research evidence for a way forward.

For the model of teachers providing support to online and blended learners to be widely implemented within an institution, implementation strategies need to be put in

place. Institution-wide implementation of teaching and learning quality enhancement initiatives is very challenging and requires broadly-based multifaceted strategies (see Chap. 19). Chapter 18 discussed one strategy for implementation which utilises the questionnaire used to gather data for the SEM testing in Chap. 14. Implementation strategies, themselves, need to be properly evaluated, which can lead to research publications.

Similarly, effective support services will only be provided to online and blended learners if evolving models of support for online and blended learners are widely and fully implemented. This is certainly an important challenge for practice. It should also be an issue for evaluation and research. Effective implementation needs feedback loops from an evaluation which determines the effectiveness of initiatives and points towards improvement. Such evaluation can provide data for research publications.

20.24.6 Towards a Holistic Model of Support and Retention

The second main part of this concluding chapter focused on synthesising a model of retention and success from the conceptual advances drawn from several strands of the thesis through the book (Fig. 20.1). There is solid research evidence for the components of the model, with the exception of institutional support. The model is a holistic whole, though it is presented as a theoretical or hypothesised model. There are then eminently worthy projects for practice and research to examine whether it is possible to implement a holistic support system with all the components functioning harmoniously. Researchers will then need to seek evidence as to whether the system does function to support the retention and success of online and blended learners.

Evidence for the components of the model has come from research into students who were largely enrolled in fully online courses. The overarching research question then applies: to what extent do the components of the model still apply to blended learners in the new normal? The preceding sections of the concluding chapter have discussed many of the issues for research and practice of the component parts. The greatest challenge will be that of implementing the model as a whole system for supporting the retention and success of blended learners in the new normal. The corresponding research issue is that of testing the model as a whole, to ascertain its effectiveness and to see if it needs developmental modification.

20.25 The Conclusion of a Long Journey

Writing the conclusion to the concluding chapter of an edited book is not an easy task. The whole chapter has been a conclusion, in three forms, of the most significant findings from the whole of the rest of the book. Condensing the chapter further into a short conclusion is not fruitful. I will instead end the chapter on a personal note,

as I have come to see the book as a significant destination in the journey which has been my academic career.

I completed my PhD in England in physical chemistry. I then set off on the start of the journey which my academic career would become. My first academic appointment was as a chemistry lecturer at the University of the South Pacific (USP), a regional university serving 12 nations in the South Pacific. Locating these nations on the map is largely an exercise in finding tiny dots representing islands amid a large expanse of blue ocean. To be viable as a regional university, USP needed to provide forms of education beyond the courses taught at the main campus in Suva, Fiji.

There was a very significant and quite sophisticated outreach and distance education offering. Each member nation had a study centre, which acted as the focal point for USP and performed a range of functions. Distance education courses operated through the centres. Communication between the centres was through a redundant NASA satellite. Physics lecturers had built radio aerials for audio communication, via the satellite, which did function to provide links across vast areas of the Pacific Ocean, even if the audio quality was often not great.

My involvement with distance education began shortly after I arrived at USP. The chemistry department had been asked to produce a distance education course, with materials for the first semester being produced over the summer holiday period. Only two of us were to be there over this holiday period, so we got the job. We produced study booklets for the course materials. A laboratory kit was sent out, so that students could do the necessary experiments. For the first year of offering, the course was restricted to Niue, where it was offered through the local school, with a teacher as the tutor. I also went there for a short intensive summer school.

The experience was so fascinating that this was the start of my career drifting away from chemistry towards distance education and eventually onto learning and teaching more generally. The career drift was accompanied by a geographical journey. The next stop was Papua New Guinea, followed by my first two appointments in Australia. Next came an extended period in three of the universities in Hong Kong. Finally, it was back to Tasmania. In all, my academic journey has embraced five countries; six if you count Hong Kong as being part of China after the handover in 1997.

During this time, distance education has also been on a transformative journey. When I first became involved at USP, the major component of the instructional package was printed study booklets. Even in the most sophisticated distance education operations, forms of technology and occasional tutorials played a secondary role, at best. Over time, technological advances, and particularly computers linked through the Internet, have changed the nature of distance education to what we now know as online or blended learning.

Through my career and geographical journeys I have, on and off, maintained a research interest which has evolved as the nature of distance education has been transformed by technological innovations. The research topic in which I became interested was the high rates of attrition which was, and still is, associated with the mode of study. It was clearly a wicked and complex problem with no simple explanation. The most respected and highly cited research into attrition were the models of Tinto (1975, 1987, 1993). However, these were formulated based on research into

face-to-face teaching and learning. It was hard to see how they applied to a form of education which rarely, if ever, involves direct face-to-face contact.

The ongoing and evolving project that has been part of my journey has been to produce models, akin to those of Tinto, which are appropriate for forms of distance education. Kember (1995) was the culmination of a series of projects, which produced a model of student progress in distance education, which at the time offered instruction principally through printed study booklets. The models in Chap. 14 in this concluding chapter, with qualitative illustration and substantiation in Chaps. 15 and 16, are put forward as models formulated for online and blended learning.

References

- Ahn, M. Y., & Davis, H. H. (2020). Four domains of students' sense of belonging to university. *Studies in Higher Education*, 45(3), 622–634. <https://doi.org/10.1080/03075079.2018.1564902>
- Anderson, T. (2016). Theories for learning with emerging technologies. Emergence and innovation in digital learning. *Foundations and Applications*, 1, 35–50. <https://doi.org/10.15215/aupress/9781771991490.01>
- Bawa, P. (2016). Retention in online courses: Exploring issues and solutions: A literature review. *SAGE Open*, 6(1), 215824401562177. <https://doi.org/10.1177/215824401562177>
- Biggs, J. B. (2011). *Teaching for quality learning at university: What the student does* (4th ed.). Society for Research into Higher Education and Open University Press.
- Bowles, T. V., & Brindle, K. A. (2017). Identifying facilitating factors and barriers to improving student retention rates in tertiary teaching courses: A systematic review. *Higher Education Research & Development*, 36(5), 903–919. <https://doi.org/10.1080/07294360.2016.1264927>
- Bryson, B. (1995). *Notes from a small island*. Black Swan.
- Carr, S. (2000). As distance education comes of age, the challenge is keeping the students. *Chronicle of Higher Education*, 46(23), 39–42.
- Delnoij, L. E. C., Dirkx, K. J. H., Janssen, J. P. W., & Martens, R. L. (2020). Predicting and resolving non-completion in higher (online) education – A literature review. *Educational Research Review*, 29, 100313. <https://doi.org/10.1016/j.edurev.2020.100313>
- Department of Education, Employment and Training (DEET). (1990). *A fair chance for all*. AGPS.
- Department of Education, Skills and Employment. (2020). 2017 Section 11 – Equity groups. <https://docs.education.gov.au/documents/2017-section-11-equity-groups>
- Dorey, P. (2015). 'Well, Harold Insists on Having It!': The political struggle to establish the Open University, 1965–67. *Contemporary British History*, 29(2), 241–272. <https://doi.org/10.1080/13619462.2014.981160>
- Dunkin, M. J., & Biddle, B. J. (1974). *The study of teaching*. Holt, Rinehart & Winston.
- Engstrom, C., & Tinto, V. (2008). Access without support is not opportunity. *Change: The Magazine of Higher Learning*, 40(1), 46–50. <https://doi.org/10.3200/CHNG.40.1.46-50>
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Aldine. <https://doi.org/10.4324/9780203793206>
- HESP. (2017). *Improving retention, completion and success in higher education* (Higher Education Standards Panel Discussion Paper). Australian Government.
- James, R., Krause, K.-L., & Jennings, C. (2010). *The first year experience in Australian universities: Findings from 1994 to 2009*. Centre for Studies in Higher Education, University of Melbourne. <http://hdl.voced.edu.au/10707/72641>.

- Kelly, A. F., & Mulrooney, H. M. (2019). Student perceptions of belonging at university: A qualitative perspective. *New Directions in the Teaching of Physical Sciences*, 14(1), 1–11. <https://doi.org/10.1080/03075079.2018.1445987>
- Kember, D. (1995). *Open learning courses for adults: A model of student progress*. Educational Technology Publications.
- Kember, D., & Ellis, R. A. (Eds.). (2022). *Admission and success for low SES university students: Report on a HEPPP 2018 National Priorities Pool Project*. Department of Education, Skills and Employment.
- Kember, D., Leung, D., & Prosser, M. (2019). Has the open door become a revolving door? The impact on attrition of moving from elite to mass higher education. *Studies in Higher Education*, 46(2), 258–269. <https://doi.org/10.1080/03075079.2019.1629411>
- Kember, D., Trimble, A., & Fan, S. (2022). An investigation of the forms of support needed to promote the retention and success of online students. *American Journal of Distance Education*, 1–16. <https://doi.org/10.1080/08923647.2022.2061235>
- Kember, D., & Murphy, D. (1990). A synthesis of open, distance and student-centred learning. *Open Learning*, 5(2), 3–8. <https://doi.org/10.1080/0268051900050202>
- Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *Journal of Higher Education*, 79(5), 540–563. <https://doi.org/10.1080/00221546.2008.11772116>
- Lee, Y., & Choi, J. (2011). A review of online course dropout research: Implications for practice and future research. *Educational Technology Research and Development*, 59, 593–618. <https://doi.org/https://doi.org/10.1007/s11423-010-9177-y>
- Levy, Y. (2007). Comparing dropouts and persistence in e-learning courses. *Computers and Education*, 48(2), 185–204. <https://doi.org/10.1016/j.compedu.2004.12.004>
- Lewis, R., & Spencer, D. (1986). *What is open learning?* Council for Educational Technology.
- Moore, M. G. (1973). Towards a theory of independent learning and teaching. *Journal of Higher Education*, 44, 661–679. <https://doi.org/10.1080/00221546.1973.11776906>
- Moore, M. G. (1989). Three types of interaction. *American Journal of Distance Education*, 3(2), 1–7. <https://doi.org/10.1080/08923648909526659>
- Muljana, P. S., & Luo, T. (2019). Factors contributing to student retention in online learning and recommended strategies for improvement: A systematic literature review. *Journal of Information Technology*, 18, 19–57. <https://doi.org/https://doi.org/10.28945/4182>
- Pascarella, E. T., & Terenzini, P. T. (1980). Predicting freshman persistence and voluntary dropout decisions from a theoretical model. *The Journal of Higher Education*, 51(1), 60–75. <https://doi.org/10.1080/00221546.1980.11780030>
- Pratt, M. G., Sonensheim, S., & Feldman, M. S. (2020). Moving beyond templates: A bricolage approach to conducting trustworthy qualitative research. *Organisational Research Methods*, 25(2), 211–238. <https://doi.org/https://doi.org/10.1177/1094428120927446>
- Rumble, G. (1989). Open learning, distance learning and the misuse of language. *Open Learning*, 4(2), 248–255. <https://doi.org/10.1080/0268051890040206>
- Tello, S. F. (2007). An analysis of student persistence in online education. *International Journal of Information and Communication Technology Education*, 3(3), 47–62. <https://doi.org/https://doi.org/10.4018/978-1-59904-949-6.ch079>
- Thorpe, M., & Grugeon, D. (1987). *Open learning for adults*. Longmans.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89–125. <https://doi.org/10.3102/00346543045001089>
- Tinto, V. (1987). *Leaving college*. University of Chicago Press.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). University of Chicago Press.
- Tinto, V. (2012). Enhancing student success: Taking the classroom success seriously. *The International Journal of the First Year in Higher Education*, 3(1), 1–8. <https://doi.org/https://doi.org/10.5204/intjfyhe.v3i1.119>

- Tinto, V. (2015). Through the eyes of students. *Journal of College Student Retention: Research, Theory & Practice*, 19(3), 254–269. <https://doi.org/10.1177/1521025115621917>
- Trow, M. (1973). *Problems in the transition from elite to mass higher education*. OECD.
- Trow, M. (2005). Reflections on the transition from elite to mass to universal access: Forms and phases of higher education in modern societies since WWII. In P. Altbach (Ed), *International handbook of higher education*. Kluwer. https://doi.org/10.1007/978-1-4020-4012-2_13
- Trowler, V. (2010). *Student engagement literature review*. (HEA Report 11). https://www.heacademy.ac.uk/system/files/StudentEngagementLiteratureReview_1.pdf
- Van Gannep, A. (1960). *The Rites of Passage* (M. Vizedom & G. Caffee, Trans.). Routledge & Kegan Paul.