Professional and Practice-based Learning

Stephen Billett
Jennifer Newton
Gary Rogers
Christy Noble *Editors*

# Augmenting Health and Social Care Students' Clinical Learning Experiences

## Outcomes and Processes

Springer

# Professional and Practice-based Learning

Volume 25

*Professional and practice-based learning* brings together international research on the individual development of professionals and the organisation of professional life and educational experiences. It complements the Springer journal *Vocations and Learning: Studies in vocational and professional education*.

Professional learning, and the practice-based processes that often support it, are the subject of increased interest and attention in the fields of educational, psychological, sociological, and business management research, and also by governments, employer organisations and unions. This professional learning goes beyond, what is often termed professional education, as it includes learning processes and experiences outside of educational institutions in both the initial and ongoing learning for the professional practice. Changes in these workplaces requirements usually manifest themselves in the everyday work tasks, professional development provisions in educational institution decrease in their salience, and learning and development during professional activities increase in their salience.

There are a range of scientific challenges and important focuses within the field of professional learning. These include:

- understanding and making explicit the complex and massive knowledge that is required for professional practice and identifying ways in which this knowledge can best be initially learnt and developed further throughout professional life.
- analytical explications of those processes that support learning at an individual and an organisational level.
- understanding how learning experiences and educational processes might best be aligned or integrated to support professional learning.

The series integrates research from different disciplines: education, sociology, psychology, amongst others. The series is comprehensive in scope as it not only focusses on professional learning of teachers and those in schools, colleges and universities, but all professional development within organisations.

More information about this series at http://www.springer.com/series/8383

Stephen Billett • Jennifer Newton
Gary Rogers • Christy Noble
Editors

# Augmenting Health and Social Care Students' Clinical Learning Experiences

## Outcomes and Processes

Springer

*Editors*
Stephen Billett
Education and Professional Studies
Griffith University
Mt Gravatt, QLD, Australia

Gary Rogers
School of Medicine
Griffith University
Southport, QLD, Australia

Jennifer Newton
Nursing & Midwifery
Monash University
Clayton, VIC, Australia

Christy Noble
Medical Education Unit
Gold Coast University Hospital
Southport, QLD, Australia

ISSN 2210-5549 ISSN 2210-5557 (electronic)
Professional and Practice-based Learning
ISBN 978-3-030-05559-2 ISBN 978-3-030-05560-8 (eBook)
https://doi.org/10.1007/978-3-030-05560-8

Library of Congress Control Number: 2019932805



This Springer imprint is published by the registered company Springer Nature Switzerland AG.
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

# Series Editors' Foreword

A key purpose of the Professional and Practice-Based Learning book series is to understand and elaborate the ways in which learning for professional activities can be effectively realised and with an emphasis on the role that learning through practice can play. In most programs of initial occupational preparation for the professions, there are elements of work-based learning experiences. Although these elements differ across occupations, national jurisdictions and educational programs in terms of their duration, range and educational purposes, they tend to be a common feature of most programs. Associated with this provision is an ongoing concern about how these workplace experiences can be integrated into students' programs of initial occupational preparation. This includes consideration about their ordering (i.e. when they should occur in that program and what they should comprise), their organisation (e.g. short- or longer-term placements) and how what students learn through these experiences can be reconciled with the educational intents of those programs. Given the significant investment by educational institutions, workplaces and students themselves and respecting the constraints in terms of resources, there are concerns about optimising the learning potential of those experiences and directing them towards specific educational outcomes. Much of this is associated with developing the competence required to practise the occupation and, increasingly, towards being able to move easily into practising those occupations in the work settings in which graduates are employed.

In this edited volume, the key concern is about how we can enrich or augment students' work-based experiences after they have completed them. The occupational and educational context is health and social care, with a particular focus on the wide range of occupations in this field that have distinct kinds of work-based placements. These extend from organised clinical placement in hospitals for medical, nursing and dietetic students through to the broader range of experiences found in speech pathology and physiotherapy. However, beyond the range of occupational fields are the different educational goals that are sought to be achieved through these work placements and the kinds of processes that have been adopted to augment those experiences educationally. The intentions here have been to trial and evaluate a range of processes to identify ways in which they can be effective and how they

might be improved. Importantly, the approaches adopted have also been informed by understandings about what purposes students aim to secure from their participation in these kinds of activities and what are their preferred means to do so. Students' perspectives are clearly important as they are, ultimately, those who engage in the process of participating in these experiences, learning through and from them and then reconciling the two sets of experiences. As a consequence, it is not possible to identify the effectiveness of these strategies without considering how students come to engage with them and will do so in the future. As evident across the contributions to this book, factors associated with student engagement and participation were central to whether these strategies could be implemented and prospects for what was trialled through the interventions reported in these chapters being implemented in the longer term.

The coherence in the contributions to this volume is that they were founded in a large teaching project that used broadly common processes and engagements, providing opportunities for the contributors to meet, discuss, share and advance their work. This coherence is aimed to be exercised through the organisation and structure of the volume. The opening chapter sets the scene for the project and the contributions, followed by one that reports the perceptions and preferences of health and social care students of the kind who participate in the courses that were the focus of these interventions. Following this are a series of chapters in which each of the interventions is introduced, the implementation and outcomes discussed and conclusions drawn about the elements and qualities of their effectiveness. Then, finally, two chapters provide a review and synthesis of these chapters in their contributions, in the first instance, and then an overall evaluation of the project in the latter.

In these ways, this contributed volume makes direct contributions to this book series and more broadly to the field of the occupational preparation of the professions. The key focus on addressing, educationally, considerations of different ways in which students' experiences in health and social care settings can be enriched and integrated into their studies provides models and practices that have far broader application.

University of Regensburg
Regensburg, GermanySeptember 2018 Hans Gruber
University of Paderborn
Paderborn, Germany Christian Harteis,

# Preface

This book seeks to highlight the purposes and potential learning benefits for health and social care students' engagement in educational activities after they have undertaken practicum-like experiences and provides instances of how those purposes can be achieved through different kinds of educational interventions. The contributions to this edited monograph are the product of a project that seeks to understand how best to maximise learning outcomes from university students' work experiences by enacting post-practicum interventions.[1] The potential for post-practicum experiences had been recognised in an earlier National Teaching Fellowship (Billett, 2011) sponsored by the Australian Learning and Teaching Council. Some projects within that fellowship identified the worth of engaging students in interventions after they had completed their practicum studies. For instance, chiropractic students at Murdoch University used classroom-based post-practicum sharing processes to appraise that occupation's core values and practices critically; students at Griffith University came to understand differences between print and broadcast journalism practices and the particular requirements of a range journalism practices, in both using classroom-based group processes; and at Flinders University, medical students used peer-led consolidations of their learning in clinical rotations. Individual debriefing sessions were used at La Trobe, with media students to assist build links amongst their study program, work experience and career goals. So, these post-practicum interventions secured outcomes aligned with students' employability to, respectively, understand work requirements, develop and consolidate procedural capacities and occupational values. In each instance, these interventions seem critical to transform practice experience into knowledge for work.

These findings led to a further national teaching and learning project entitled "Augmenting students' learning for employability through post-practicum educational processes" (2015–2018), funded by the Office of Learning and Teaching, within the Australian government. This project's central goal was to identify how

[1] The term practicum is used as a shorthand for the range of workplace experiences (i.e. clinical placements, clinical experiences, teaching placements, internships, etc.), although acknowledging their differences.

post-practicum educational interventions can augment students' development of the kinds of capacities required for effective transition to employment upon graduation. Given the significant resources expended on securing students' work experiences across all kinds of university programs, this edited monograph in reporting the processes and findings of a series of subprojects has direct relevance to the range of these higher education programs.

Focussing on initial occupation preparation within healthcare, this learning and teaching project comprises a systematic trialling and evaluation of a diverse range of interventions and for distinct purposes associated with employability across a range of occupational areas. The project had four stages. The first stage commenced with a consolidated review of literature and then engaging university and work-based educators from healthcare in a dialogue forum at which project plans were developed and discussions progressed within and across a group of 14 projects from 5 universities. In the second stage, the interventions adopted by these 14 projects were trialled, evaluated and refined over 2 teaching periods, progressively sharing their processes and findings. In the third stage, a development conference was held to share and evaluate the processes and outcomes of these projects collectively. The project teams were joined at this event by participants (approx. 30) from a range of disciplines outside of healthcare and from other universities. In the fourth stage, the 30 additional participants led projects implementing, practising and refining interventions whilst engaging others locally (e.g. in their institutions) to implement and appraise these processes over the period of a year.

This book is a product of the second-stage projects from the healthcare sector that trialled a range of post-practicum interventions. Healthcare education was selected as a platform from which to advise other disciplines and sectors, because of its long tradition of providing practicum experiences. This initial focus and engagement includes identifying, trialling and evaluating post-practicum interventions in nursing, medicine, midwifery and allied health disciplines, across five participating universities and a major industry healthcare partner. This sector was selected because of the range and diversity of kinds of its practicum arrangements that vary in length, forms and configurations, and those teaching in that sector are familiar with their use. So, much of the diversity of what constitutes practicum experiences can be found in this sector. This provides a platform for an informed appraisal of the efficacy of work experiences and their integration into students' educational programs and outcomes. Whilst enjoying a level of support not found in all other sectors, health and social care offers a strong platform to capture the diversity of practicum arrangements and appraise their worth in achieving positive employability outcomes that are seen as a long-standing problem within higher education.

So, for these reasons, it is the project work from the health and care services sector that feature in this edited monograph and the projects reported here offer a range of purposes for which post-practicum interventions can be directed and means by which such interventions are enacted. The chapters here offer a range of findings about these experiences as reported by students within preparatory programs across five Australian universities. The intention here is that the experiences, processes and

outcomes reported in the chapters of this book can make contributions to how post-practicum educational interventions might be organised, enacted and evaluated, and not just those in the broad health and care sector.

These contributions are summarised here. In his opening chapter – Augmenting Post-Practicum Experiences: Purposes and Practices – Billett sets out and discusses the nature of post-practicum experiences and the range of educational purposes for which they can be provided for health and social care students. This discussion includes consideration of and how and why practice-based experiences need to be augmented to secure effective learning outcomes for students. The particular focus here is on the rationale for providing post-practicum interventions, the particular purposes to which they can be directed and how these experiences can be made effective. Central is the importance of how to integrate students' experiences into two different kinds of circumstances (i.e. clinical practice and educational experiences) through reconciling the contributions of these experiences as directed towards achieving the outcomes of students' programs. Reference is made here to conceptions of integration or reconciliation of those experiences and how different conceptions come to shape the sorts of educational interventions that could be selected: work integrated education. This discussion extends to the organisation and provision of experiences (i.e. the curriculum), as well as the ways in which educators or clinical practitioners can come to enrich those experiences (i.e. pedagogic practices). Salient to these discussions is not being constrained by a requirement for the interventions to be led by a more informed partner (e.g. teacher or clinician). Instead, there is also a need to be inclusive of how group-, individual- or peer-led processes can be helpful in engaging students to utilise their experiences, and those of others, fully to promote their learning.

To graduate occupationally informed and work-ready graduates, the Australian higher education sector has increasingly incorporated work-integrated learning (WIL) components into its courses. These components take many forms such as practicums, clinical experiences, and internships. They play an essential role in bridging the content studied at universities and the professional practice required in workplaces. In some instances, students are charged with finding and organising their own WIL placements. But, primarily, it is higher education institutions that direct considerable resources, time and funding towards sourcing and facilitating these experiences, matched by those of workplaces and students. It is important, therefore, that we evaluate and seek to enhance the effectiveness of these workplace experiences. In their chapter – Sharing Stories and Building Resilience: Student Preferences and Processes of Post-Practicum Interventions – Cain, Hai and Billett report and discuss the preferences of 365 higher education students in Australia undertaking work placements in health and social care disciplines, to gain a range of information about how post-practicum interventions might best assist them to learn more about their prospective occupations. The findings from this survey are presented and discussed here, illustrating these students' preferences for the types, forms and timings of post-practicum interventions. Most notable is a preference for processes facilitated by teachers or experts over student-organised interventions.

Variations in responses between discipline areas provide additional important information about how best to augment and support placement experiences.

In the first of the chapters comprising individual projects, Levett-Jones, Cortney-Pratt and Govind trial and report on strategies associated with developing student nurses' clinical reasoning skills, as these have a positive impact on patient outcomes. For this reason, it is imperative that students understand and can demonstrate clinical reasoning processes. Additionally, whilst clinical reasoning is often taught and assessed in preparation for clinical placements, a post-practicum assessment can assist identify if and to what extent students' clinical learning experiences influence their learning. This chapter, appropriately entitled "Implementation and Evaluation of the Post-practicum Clinical Reasoning Oral Exam", provides a detailed overview of the development of a post-practicum clinical reasoning exam, guidelines for educators interested in adopting this novel approach and results from the evaluation of the exam. The post-practicum clinical reasoning exam for nursing students was conducted as follows. Students were provided with a verbal clinical handover case and the healthcare records of four patients. In the individual face-to-face oral exam that followed, students were required to describe how they would prioritise, plan and manage the care of the four patients using the clinical reasoning cycle as their organising framework. The exam was assessed by an academic staff member and immediate summative feedback provided to students. Following ethical approval and on completion of the oral exam, students were invited to complete a short evaluation survey with closed- and open-ended questions. Quantitative data were statistically analysed and qualitative data were analysed thematically. There were 471 students enrolled in the clinical course and invited to complete the evaluation survey. Of these, 181 participated, giving a response rate of 38%. The mean satisfaction score was 3.03 out of a maximum of 5 indicating a moderate level of satisfaction with the oral exam. Three themes emerged from qualitative analysis: "Better than Written Assessment Items", "Authenticity of the Approach" and "The Need for Better Preparation".

Rogers, Parker-Tomlin, Clanchy, Townshend and Chan in their chapter – Utilising a Post-Placement Critical Assessment Task to Consolidate Interprofessional Learning – also describe the development and implementation of an assessment task undertaken by health professional students during and after routine clinical placements, with the aim of consolidating a program of interprofessional learning. They propose that the capabilities required by health graduates for effective collaborative practice amongst multiple health professions after graduation are complex and span the three domains of learning first postulated by Bloom and colleagues in 1956: cognitive, psychomotor and affective. The chapter also posits that the acquisition of these capabilities during the preregistration training of health professionals requires a planned, coordinated and scaffolded program of interprofessional learning activities. The evaluation of the activity demonstrates that the routine clinical placements undertaken by health professional students in interprofessional practice settings provide an opportunity to consolidate that learning, toward the end of each student's program, through utilisation of the assessment task. The task places the candidates into a critical posture in relation to the practice of an interprofessional team they

have had the opportunity to observe during routine clinical placements. Finally, this assessment activity is advanced as a particular type of post-practicum experience with the potential to augment specific kinds of learnings that may be acquired in the clinical environment.

The next chapter – Clinician Peer Exchange Groups (C-PEGs): Augmenting Medical Students' Learning on Clinical Placement – focuses on peer learning processes in medicine. Harrison, Molloy and Bearman describe the process and outcomes of a novel peer learning activity: Clinician-Peer Exchange Groups (C-PEGs). C-PEGs were introduced as a forum for final-year medical students on clinical placement to come together and share learning with their peers. These interventions took the form of multiple, peer-only, face-to-face groups of five students with relatively open-ended topics for discussion. These design elements helped to create a safe learning environment for the students to share content that mattered to them. The scheduling of C-PEG sessions throughout a clinical placement meant that students were able to discuss experiences whilst they were still fresh and this timing helped to engage the students with the process of reflection in an authentic and natural way. Both the design and evaluation of the C-PEG activity are presented in the chapter. The evaluation results demonstrate that C-PEGs have value for learning, peer connection and peer support. The potential value of C-PEGs for final-year medical students is heightened when considered as a scaffold for the lifelong learning skills of the reflective practitioner. Learning through the experiences and challenges of day-to-day practice, as opposed to studying for an exam, is characteristic of learning postgraduation. These peer-based discussions, introduced prior to graduation, are also intended to prime the students for strategies they can adopt postgraduation. The authors conclude that C-PEGs provide a mechanism to achieve this reflection on action. Finally, implications for practice are discussed, along with directions for further research to examine the development of reflective capacities in health professional students.

Graduate employability is important to students, employers and universities. Personal and professional attributes that enhance employability aim to be addressed directly throughout the curriculum. Employability, however, also includes an ability to communicate those attributes effectively to potential employers. In their chapter – Post-Practicum Strategies to Translate Clinical Experience to Attributes of Employability: Responding to Graduate Selection Criteria – Kirwan, Tuttle, Weeks and Laakso describe an approach to assist students to communicate their graduate attributes more effectively through the process of applying for employment, including writing applications and performing in interviews. It is evident that students need to know how to express to potential employers what their skills are and be able to provide evidence of their achievement of those skills. This is a challenging undertaking but one that is likely more successful with careful planning and integration with curricular, rather than attached as an "add-on" to usual teaching practice. The physiotherapy students participating in this study engaged in theoretical learning covering an area of physiotherapy academic content on campus, followed by preplacement facilitated planning sessions and, in some cases, simulation-based learning specifically modelled on the placement that was to follow. Each placement was

followed by a post-placement reflective practice activity, with subsequent on-campus blocks building on the knowledge and skills gained from previous blocks and clinical placements. The aim was to develop post-placement learning activities to enable students to develop and communicate experiences and attributes relevant to new graduate employment and to achieve this through mock job applications and a simulated interview process. The authors provide background and detail to the new learning activities, summarise the results of their evaluation and provide recommendations for others looking to assist their students to communicate attributes of employability more effectively.

Sweet and Bass, in their chapter – The Continuity of Care Experience and Reflective Writing: Enhancing Post-Practicum Learning for Midwifery Students – report a post-practicum intervention through which students had opportunities to share, compare and engage critically in considering how their clinical experiences impact their learning and future roles as professionals. Reflective practice was found to have merit in facilitating this process. Their project aimed to enhance students' capacity for reflective practice through writing, to optimise the learning potential of longitudinal practice-based midwifery experiences. A design-based approach was used to implement an educational intervention to enhance students' reflective writing. Midwifery students at one university were familiar with and had been using a model of holistic reflection for the previous 3 years. Students at another university were unfamiliar with the model and through the project were provided with guidance and resources on its use to guide their post-practicum reflection. Students' written reflections completed before and after the introduction of the model at that university were compared with the writing from students at the university. The findings indicate that student scores in relation to reflective capacity at the second university pre-intervention ranked poorly and were lower than the scores of their counterparts at the first university. Post-intervention, scores for the second cohort improved, whilst students from the first university, who had been using the trialled model throughout their entire program, demonstrated developmental improvement in their reflective capacity across time. The use of this model improved all components of reflective writing, including self-awareness, awareness of sources of knowledge, reflection and critical reflection, evidence-informed practice and critical thinking. This project demonstrated that the use of this approach improved student's capacity to reflect on practice, as evidenced through their writing, and utilised a post-practicum pedagogy with the potential to enhance learning.

Intersubjectivity, or the ability to understand and work with others, is essential in healthcare. Intersubjective processes include workplace relationships where clinicians seek to make sense of, and identify, stakeholders' interests. Students may develop intersubjectivity through groupwork, structured around classroom activities. However, less well established is how the types of skills required for the temporary, fleeting and partial everyday healthcare collaborations amongst nurses, patients, families, doctors and allied health professionals are developed. Grealish, Mitchell, Armit, van de Mortel, Shaw, Mitchell and Frommolt in their chapter – Using Learning Circles to Develop Intersubjectivity – discuss the process and outcomes of a study that aimed to evaluate the feasibility of, and learning experienced

by students who participated in, learning circles conducted in health workplaces. They used a mixed-method approach with a convenience sample of nursing students undertaking clinical placement at one tertiary hospital. The learning circle is a pedagogic activity for developing students' knowledge of nursing through checking and comparing experiences, feelings and conceptual understanding. The structured learning circle activity focused on a shared topic derived from students' own clinical cases, which were drawn in the form of a concept map. Data were collected from students via individual concept maps, written feedback on their learning in relation to the learning circle and follow-up telephone interviews. Common themes were developed from the multiple data sources. It was found that the students (n=37) valued the learning circle activity generally, commenting on the value of hearing others' perspectives and experiences and securing peer feedback on their own ideas. The learning circle was feasible in terms of student availability and interest, but the challenge of securing space in the hospital for the 1-h sessions was significant and threatened sustainability as a practical strategy. A concept mapping exercise, used as a data collection instrument, emerged as an important feature of the activity, with students commenting on how drawing the map helped them to deconstruct the clinical situation and map their thoughts on paper. The student-led learning circle activity provided students with an opportunity to develop intersubjective skills, with the socio-political pattern of knowing produced following these discussions.

A significant proportion of the undergraduate medical curriculum is delivered in the workplace, given its value in supporting students to develop professional competencies. Clinical placements are often modelled on the cognitive apprenticeship, where students learn about patient care under the close supervision of the expert clinician. Time-pressured clinicians, however, who have a patient-focussed approach to supervision often teach "on the run", rather than adopting a student-centred approach to learning, whereby the full benefits of the cognitive apprenticeship can be realised. Students who do not have opportunities to participate fully in the healthcare team's community of practice, albeit under close supervision, often report feeling underprepared for professional practice as a junior doctor. As the core business of the healthcare setting is patient care, as opposed to clinical teaching, this situation is unlikely to change, and it is perhaps unwise to rely solely on the clinical placement to prepare medical students for full participation in the workplace. In their chapter – Consolidating Clinical Learning Through Post-Rotation Small Group Activities – Steketee, Keane and Gardiner describe and discuss an educational intervention known as the modified clinical debriefing tutorial (MCDT), which was designed to augment student learning during clinical placements. Final-year medical students were exposed to six 2-h MCDTs where, in the presence of an experienced clinician, they were provided with additional space and time to examine and make sense of the day-to-day events of the clinical setting, as well as specific challenging incidents they encountered. Drawing on the principles of the cognitive apprenticeship model, tutors were trained to lead discussions such that students made their thinking visible through strategies such as reflection, articulation, modelling and scaffolding, with tutors using coaching and mentoring strategies. This intervention was evaluated, and results suggest that the MCDT affords students the

opportunity to engage in and practise cognitive and metacognitive processes that are necessary to solve complex problems once they graduate. The MCDT is a valuable extension of the clinical placement that assists learners to adapt to the realities of the clinical workplace, both as students and once they graduate as junior doctors.

Intensive professional preparation programs, such as for speech pathology, require students to rapidly develop knowledge, skills and attributes. Students report high levels of stress associated with this accelerated learning trajectory, which focuses on professional knowledge and clinical competencies. Although incidentally targeted in the curriculum, resilience, self-efficacy and professional identity are required for managing tertiary education demands and those in the workplace. It is argued that these three constructs are interconnected and should be managed together. In their chapter – Bouncing Forward: A Post-Practicum Workshop to Promote Professional Identity, Self-efficacy, and Resilience in Master of Speech Pathology Students – Cardell and Bialocerkowski describe and discuss the processes and outcomes of a 2-h post-practicum workshop, "Bouncing Forward". The activity was developed to facilitate speech pathology students' self-awareness of resilience, self-efficacy and professional identity in a safe and supported environment, by using their most recent practicum experiences as reference points. Developments of this workshop, including its pedagogical framework, key design principles, the resources required to run it and the workshop format, are described in detail in this chapter to allow transferability to other settings. Data are provided that demonstrate high student engagement and the substantial perceived value of the workshop by students. Participants provided feedback on the timing of the workshop, which led to the workshop being conducted earlier in 2017, with equally positive feedback. Longitudinal resilience, self-efficacy and professional identity data were also presented. Over one trimester of study, increases in resilience, self-efficacy and professional identity were noted. It was, however, identified that changes in "looking after yourself', "taking control" and "positive mental attitude" were equivocal on the Personal Resilience Questionnaire and thus require further curriculum consideration. Evaluation is under way on the effect of the workshop on changing behaviour in the domains of resilience, self-efficacy and professionalism. The workshop had transferability across health disciplines, having been successfully implemented with undergraduate dietetic students and adapted for paramedicine students.

In Australia, the nurses' registration board necessitates nurses to be competent reflective practitioners. Consequently, student nurses require opportunities to develop these capacities. Newton and Butler in their chapter – Facilitating Students' Reflections on Community Practice: A New Approach – discuss the challenges of engaging nursing students in a novel pedagogical approach aimed to enhance their critical reflectivity. The example utilised was community health practicum experience. Aside from the students' assessment requirement to submit a clinical portfolio, there was formerly no post-practicum follow-up to augment their learning from their community health placements. At the time this study was undertaken, the graduate-entry students spent only 1 week on their community health practicum and third-year undergraduate students 2 weeks. However, previous research has clearly

identified that student nurses spend their first week assimilating into a new clinical setting before they are able to focus and reflect on their learning needs. The community health facilities students attend are quite varied in what they might offer in terms of opportunities and engagement. To augment learning, a discussion forum was created on a project-specific, web-based learning interface, "Critical reflection on Community Practice". Students were requested to upload a short video clip to share their learning experience of their community health placements. The videos were analysed for both evidence of reflectivity, using The Reflective Writing Framework, and knowledge content through content analysis. Findings illustrated a richer depth of knowledge, heightened awareness and enhanced reflectivity, suggesting the benefits and limitations of video as a pedagogical approach for facilitating post-practicum critical reflection.

The practicum is one of the most important components in health professional education. It is also one of the most challenging. The hospital setting, in particular, offers situations that may be physically, mentally and emotionally demanding on students, who, at the same time, are under pressure to be assessed as competent. Even if placement supervisors are willing to assist students with processing difficult experiences – and some are not – students see these supervisors as their assessors and may be unwilling to share their experiences with someone who has the power to influence the outcomes of their placement. In their chapter – The Reflective Debrief: Using Students' Placement Experiences to Enrich Understandings of Distinct Kinds of Nutrition and Dietetics Practice – Williams, Ross, Mitchell and Markwell describe a university-based reflection and debrief following placement facilitated by university staff. They note that it has the advantage of avoiding this conflicted role of supervisors and embeds the placement more clearly in the university curriculum. This format was chosen for a formal reflection and debrief session that formed part of a week-long post-placement workshop held upon return to the university for nutrition and dietetics students at the end of their credentialing program. The aim of the reflective debrief was to provide a facilitated opportunity for students to reflect on their hospital placement experiences formally and collectively and to explore the implications of the reflection for working in that setting in the future. It was developed according to design-based research principles used for other aspects of curriculum development in the nutrition and dietetics program. This chapter describes the development, implementation and evaluation of the hospital placement reflective debrief session and highlights the contributions the critical incident approach makes to practicum-based learning.

The chapter by Noble, Armit, Collier, Sly, Hilder and Molloy also explores the use of debriefing processes. This chapter – Enhancing Feedback Literacy in the Workplace: A Learner-Centred Approach – discusses the development, implementation and evaluation of a learning intervention to enhance students' workplace feedback literacy. Addressing students' feedback literacy offers an opportunity to improve peri-placement feedback experiences. Informed by the learner-centred feedback model, Feedback Mark 2, the intervention aimed to (1) support students' self-evaluation of placement performance, (2) encourage students to engage in feedback processes and (3) generate a plan for improved work. The intervention, per-

formed 3 times with 105 students, was evaluated using 2 surveys and one-off interviews (n = 28). Students were highly satisfied with the experience and reported an enhanced understanding of feedback processes and their role. Students described being actively engaged in placement feedback processes because they felt empowered to ask for feedback. These findings suggest that enhancing placement learning through student engagement in feedback needs to begin before placement and be enacted during placement and consolidated following placement. This vertical reinforcement may occur through activities supporting feedback as a learning mechanism. Central to effective feedback engagement is planning for subsequent learning; thus, placement experiences and active feedback engagement will support students' post-placement to plan and integrate further university-based learnings.

The next chapter also addresses feedback as a post-practicum intervention. Career development learning is a key component of employability and is proposed to augment WIL experiences as it moves beyond the attainment of discipline-specific skills to a more nuanced understanding of the specific profession. This chapter by Clanchy, Sabapathy, Reddan, Reeves and Bialocerkowski – Integrating a Career Development Learning Framework into Clinical Practicum Debrief Sessions – focuses upon the benefits of integrating a well-designed model of career development learning into the clinical practicum debrief sessions of a postgraduate degree program in exercise physiology. The career development learning program comprised nine career development learning modules, delivered in five workshops undertaken during and following WIL activities. The program was framed to assist students to better understand career pathways and their career choices, through the use of authentic and meaningful interactive learning activities. The modules included participation in employment skills and career development seminars, case-conferencing and panel discussions with practising exercise physiologists, as well as the inclusion of learning elements relating to key practice-based areas. Student feedback pertaining to the value of the program was very positive, with at least 66% of respondents providing a rating of 4 or more (out of a possible 5) for every module. The students reflected that the content and structure of the program facilitated an increased knowledge of employment opportunities and employability skills which, in turn, increased their preparedness for gaining employment. These findings are particularly relevant in the context of a changing and challenging graduate employment landscape. We propose that the key components for the development of a career development learning model should include detailed consideration of the nature of the program of study, student- and profession-specific variables, in addition to the involvement of students and industry stakeholders.

After these chapters that report specific studies, the final two chapters provide different kinds of syntheses of these studies and their contributions to the field of WIL and post-practicum interventions. Identifying principles and practices associated with curriculum and pedagogies to support the effective utilisation of post-practicum experiences is the focus of Billett's chapter – Curriculum and Pedagogies Principles and Practices for Implementing Post-Practicum Experiences. It draws upon and synthesises the contributions and findings from the studies and surveys reported within this monograph. Explicitly, it seeks to identify and align particular

educational purposes with specific curriculum and pedagogic practices, so that the provision of these experiences can progress in an informed and focused way. Within all of this is also a consideration of how students come to engage in these activities and for what purposes, as was identified in the survey reported in the second chapter. These can be referred to as students' personal epistemologies, which are central to how they come to engage in and learn through experience both in practicum settings and also at university but also how they reconcile those two sets of experiences. Commencing with a consideration of the range of purposes identified in these contributions and from other sources, a review of the kinds of curriculum considerations (i.e. the sequencing, ordering and kinds of experiences) and also pedagogic practices (i.e. the means by which these experiences have been enriched) is then provided and aligned with the kinds of purposes identified initially. Whilst the focus of this review and analysis is on the studies reported in this monograph, other instances and examples drawn from the literature are also engaged with. The overall concern here is to identify a set of principles and practices that can be utilised within higher education and across a range of disciplines to support the effective use of post-practicum experiences.

Finally, Orrell in her chapter – The Challenges of Implementing Post-Practicum Initiatives –refers to the lighthouse models for augmenting post-practicum learning for those working in the field of workplace education, which have been presented in this monograph. These subprojects have generated diverse innovative ways of successfully augmenting and transforming the learning that occurs within practice settings into practice knowledge that will contribute to graduates' employability. The risk with most educational innovations, however, is that they often disrupt taken-for-granted ways of practising, thinking and relating. Such disruptions present challenges, not only to those who may resist the change but also to those who attempt to lead change. This chapter adopts a pragmatic stance to the project as a whole to identify the challenges experienced by those leading the subprojects, as well as the processes and strategies inherent in the larger project design that contributed to mitigation of the disruptions and to successful implementation.

We hope that these contributions, the practices promoted herein and the overall suggestion about the use of post-practicum experiences provide bases for both change and continuity in learning and teaching practices in higher education.

Mt Gravatt, QLD, Australia — Stephen Billett
Clayton, VIC, Australia — Jennifer Newton
Southport, QLD, Australia — Gary Rogers
Southport, QLD, Australia — Christy Noble
August 2018

# Acknowledgements

The editorial team would like to acknowledge the range of institutional, personal and professional contributions that have supported the production of this text. Principally, we wish to acknowledge the funding agency – the former Office of Teaching and Learning, within the Federal Department of Higher Education and Innovation, which provided the funding for the national teaching and learning grant: "Augmenting students' learning for employability through post-practicum educational processes" (2015–2018). Without that funding it would have been impossible to undertake such a broadly based study involving so many disciplines and higher education teachers from so many higher education institutions. That funding permitted an initial round of interventions to occur, and which are reported here, and then allowed the project teams to meet and discuss their plans in a 2-day developmental meeting initially before each project implemented its interventions across a 12-month period. That funding extended to, firstly, having an event where the 14 projects from the healthcare sector were able to share their processes and findings with a larger cohort of higher education teachers from a range of disciplines, mostly outside of health, and then assisted members of the second cohort to design and implement their own projects.

However, whilst the teams in the two cycles of interventions were provided with funding to support and monitor their interventions, the investment by team members and their institutions goes well beyond that which was provided to them through the project. The project leaders often went beyond what was planned in their project proposals, extending their studies to engage as many students as possible and also to explore thoroughly the efficacy of the strategies they were implementing in their programs. So, we wish to acknowledge those significant contributions.

Also, the lead editor, who is also the overall project leader, would like to acknowledge the assistance given in the earlier phase of the project by Melissa Cains and An Ha Le, who both provided invaluable support.

# Contents

# About the Contributors

**Lyn Armit** is the director of Nursing, Education and Research at Gold Coast Health, Australia. Lyn has spent 37 years in nursing, 25 of which were in nursing education roles. Currently her key interests are collaborative partnerships in education and work-integrated learning.

**Janice Bass** is a midwife educator and practising midwife working in England, New Zealand and Australia. She is currently a lecturer in the School of Nursing and Midwifery at Griffith University, Brisbane, Australia. She is passionate about transforming maternity care through a social emancipatory approach and the development of reflective practice as an educational strategy to facilitate transformative learning.

**Margaret Bearman** is an associate professor (Research) within the Centre for Research in Assessment and Digital Learning (CRADLE), Deakin University, Australia. She has been formally recognised for her work as an educator and researcher, including awards from the Australian Office of Learning and Teaching and Simulation Australasia.

**Andrea Bialocerkowski** is the head of the School of Allied Health Sciences at Griffith University, Gold Coast, Australia, which is a large multidisciplinary and multicampus school. She is also a registered physiotherapist and has worked clinically in both the public and private healthcare systems in Australia. As a physiotherapy academic, Andrea has worked throughout the Australian university sector in teaching, research, leadership and management positions.

**Stephen Billett** is professor of Adult and Vocational Education at Griffith University, Brisbane, Australia, a national teaching fellow and an Australian Research Council future fellow. He has worked as a vocational educator, educational administrator, teacher educator, professional development practitioner and policy developer in the Australian vocational education system and as a teacher and researcher at Griffith University.

**Ashleigh E. Butler** is a research associate at the Louis Dundas Centre for Children's Palliative Care at the University College London/Great Ormond Street Institute for Child Health. She has worked as an adult and paediatric critical care nurse in Melbourne, Australia, as well as a researcher and teaching associate at Monash University, Australia.

**Melissa Cain** is a lecturer at the Australian Catholic University in Brisbane. Melissa's teaching and research areas include initial teacher education, inclusive arts education, creative pedagogies and assessment and curriculum. Melissa has been a project manager for three large-scale national learning and teaching projects and has produced an international MOOC – Deep Learning for Transformative Pedagogies – through EdX and Microsoft.

**Elizabeth Cardell** is deputy head (Learning and Teaching), School of Allied Health Sciences, and discipline lead for Speech Pathology at Griffith University, Gold Coast, Australia. She is a certified practising speech pathologist and has worked as a clinician and clinical educator in both public and private healthcare systems in Australia and the UK. Her current academic roles include teaching, research, leadership/management responsibilities, oversight of learning and teaching quality and innovation.

**Pit Cheng Chan** is the interprofessional and simulation-based learning coordinator at Griffith Health Institute for the Development of Education and Scholarship, Griffith University, Gold Coast, Australia. She has worked as a pharmacist, trainer and marketing executive in the pharmaceutical industry, medical communication skills facilitator, human patient simulation educator, interprofessional and simulation-based learning educator and researcher at Griffith University.

**Kelly Clanchy** is a lecturer and early career researcher in Exercise Science at Griffith University, Brisbane, Australia. She is an accredited exercise physiologist with Exercise and Sports Science Australia, with a speciality in promoting physical activity participation for individuals with neurological disabilities. Her research interests include the design and evaluation of programs tailored to the development of professional identity and improvement of clinical competencies and employability outcomes for Exercise Science and Exercise Physiology students.

**Leigh Collier** is an allied health advanced clinical educator at Gold Coast Health, Australia. She is an experienced social worker and recently completed a graduate certificate in Academic Health Practice. Leigh's research interests focus on investigating learner-centred feedback and interprofessional education for students and new graduates.

**Helen Courtney-Pratt** is a registered nurse and senior research fellow at the Wicking Dementia Research and Education Centre at the University of Tasmania. Australia. She has a broad research interest in undergraduate nursing education and

workforce development. She has published in relation to models of clinical placement for undergraduate nursing students and the registered nurses who support them in placement.

**Katharine Gardiner** is currently the chair of the Communication and Clinical Practice Domain in the School of Medicine at the University of Notre Dame, Australia, and a consultant paediatrician in public practice with the Joondalup Child Development Service. Her interests include the development of professionalism, clinical reasoning, critical thinking and communication skills for all student doctors and medical practitioners, as well as community and developmental paediatrics.

**Natalie Govind** is a lecturer and director of Health Simulation, Faculty of Health, University of Technology Sydney. She has experience with the design, implementation and evaluation of educational curricula, programs and educational platforms both in the clinical and academic environment. Natalie's research interests include simulation, patient safety, clinical reasoning, peer teaching and empathy.

**Kristen Graham** is a registered midwife and nurse and professional educator in community and child health nursing. She is the course coordinator (Midwifery) in the College of Nursing and Health Sciences, Flinders University. She teaches clinical midwifery and primary healthcare topics. Her research focuses on midwifery education and maternal neonatal and child health in resource-poor environments and has undertaken educational roles in Australia and internationally, including Thailand, Timor Leste and Sierra Leone.

**Laurie Grealish** is an associate professor in Subacute and Aged Nursing at Griffith University, Gold Coast, Australia. She holds a joint appointment with Gold Coast Health, where she supports clinician-initiated studies as well as leading a research program in the areas of the care of older people in the health system, end-of-life care and work-based learning. She is an experienced academic, is awarded for her leadership in work-based learning and is a recent NHMRC TRIP fellow (2016–2017).

**Anh Hai (Leah) Le** is a lecturer and research fellow at Griffith University, Australia. Her research interest focuses on curriculum development in tertiary education, with an interest in the process of building knowledge through scholarly engagement with industry and higher education institutions. She has diverse experience in teaching and curriculum development in higher education sector, with postgraduate qualifications in Education, Linguistics, Tourism and Hospitality, also in Health and Community.

**Julia Harrison** leads the Clinical Skills Theme and the Patient Safety Unit in the Medical Course at Monash University, Australia. Julia is an emergency physician at Monash Health.

**Joanne Hilder** is a research officer at Gold Coast Health, Gold Coast, Australia. She has previously worked as welfare officer and social worker at the Gold Coast University Hospital.

**Niamh Keane** holds the position of senior lecturer and clinical curriculum coordinator at the School of Medicine at the University of Notre Dame, Australia. She works as an educational administrator and tutor at the Medical School. She also teaches clinical sciences to undergraduate science students. She holds a PhD in Immunology with experience in medical research.

**Garry Kirwan** is the deputy director of Physiotherapy at the QEII Jubilee Hospital and an adjunct senior lecturer at Griffith University. With a background in both the academic and clinical settings, Garry has contributed to the clinical education of physiotherapists at a state and national level.

**E-Liisa Laakso** is a senior allied health research fellow (honorary associate professor) at the Mater Research Institute, Brisbane, and professor of Physiotherapy at Griffith University, Brisbane, Australia. She has worked as a physiotherapist in private practice and public hospital settings, as a teacher at The University of Queensland and as a teacher and researcher at Griffith University.

**Michelle Leech** is head of the Medical Course and deputy dean in the Faculty of Medicine, Nursing and Health Sciences at Monash University, Australia. She is a consultant rheumatologist at Monash Health. Michelle works in leadership, education and research at local and national levels.

**Tracy Levett-Jones** is the professor of Nursing Education at UTS, Australia. She has authored ten books, has led a number of Category 1-funded research projects and has been awarded ten national teaching and learning awards. Her research interests include belongingness, clinical reasoning, empathy, cultural competence, simulation and patient safety.

**Katherine Markwell** is a senior lecturer of Nutrition and Dietetics at Chester University in the UK. She is a registered dietitian (HCPC), accredited practising dietitian (DAA) and registered nutritionist (NSA). Dr Markwell has experience in nutrition, behavioural and physical activity research projects in clinical health sciences and public health.

**Creina Mitchell** is a registered nurse, midwife and qualified maternal and child health nurse. Over the past two decades, she has worked in hospital, local and state government and academic settings. She is currently a lecturer at Griffith University School of Nursing and Midwifery. Her research interests include teaching and learning, primary healthcare, community nursing and maternal and child health.

**Lana Mitchell** is a lecturer in Nutrition and Dietetics at Griffith University and an advanced accredited practising dietitian. Her research and teaching focuses on better preparing graduates for the changing workforce and enhancing employability, with a particular focus on the primary care setting.

**Marion Mitchell** is professor of Critical Care Nursing at Griffith University School of Nursing and Midwifery and also at Princess Alexandra Hospital, Brisbane, Australia. She is a life member of the Australian College of Critical Care Nurses. Dr Mitchell has worked as a clinical educator, university educator, manager and researcher.

**Elizabeth Molloy** is professor of Work-Integrated Learning, School of Medicine, University of Melbourne, Australia. Elizabeth has a clinical background in physiotherapy, and her research focuses on workplace learning, feedback, workplace assessment and professional transitions. She teaches postgraduate programs in health professions education and is a fellow of the Australian and New Zealand Association for Health Professional Educators.

**Jennifer M. Newton** is adjunct associate professor, Nursing and Midwifery Monash University, Melbourne, Australia, and associate clinical professor, McMaster University, Hamilton, Canada, and is a fellow of the Australian College of Nursing. She is a registered nurse and midwife, educator and researcher. Her research focuses on workplace learning, transition to practice, interprofessional learning and reflection.

**Christy Noble** is a principal medical education officer and allied health research fellow at Gold Coast Health, Queensland, Australia. Originally trained as a pharmacist, through her doctoral and post-doctoral studies, she has developed an interest in feedback, research capacity development, interprofessional learning and workplace learning in healthcare settings.

**Michelle Parker-Tomlin** is employed by Griffith University, Australia, in the Health Institute for the Development of Education and Scholarship (Health IDEAS). She is a practising registered psychologist and is completing her clinical psychology PhD; her research focus is in clinical decision-making and interprofessional collaborative practice.

**Gregory Reddan** is an adjunct senior lecturer in Sports Coaching at Griffith University, Brisbane, Australia. He developed the Master of Sports Coaching program and was program director from 2009 to 2016. He has extensive experience as a vocational educator in Exercise Science and has received numerous citations and awards for excellence in teaching and learning.

**Nathan Reeves** is senior lecturer in the School of Allied Health Sciences, Griffith University, Brisbane, Australia, and Exercise and Sports Science Australia fellow.

He is an accredited exercise scientist and exercise physiologist and has practised in the private and public sectors of workplace rehabilitation, and he is a teacher and researcher at Griffith University.

**Gary D. Rogers** is professor of Medical Education and Deputy Head (Learning and Teaching) of the School of Medicine, as well as program lead for Interprofessional and Simulation-Based Learning in the Health Institute for the Development of Education and Scholarship (Health IDEAS) at Griffith University, Gold Coast, Australia. He serves on the Executive Committee of AMEE, the international association for health professional education, and is a principal fellow of the Higher Education Academy.

**Lynda Ross** is an advanced accredited practising dietitian and senior lecturer at Griffith University, Gold Coast, Queensland, Australia. Dr Ross convenes Medical Nutrition Therapy and Clinical Practicum courses in the Bachelor of Nutrition and Dietetics.

**Surendran Sabapathy** is an accredited exercise physiologist and senior lecturer in Griffith University's School of Allied Health Sciences, where he leads the training program for Clinical Exercise Physiology. He divides his professional time largely between research and teaching, primarily in the areas of exercise and cardiopulmonary diseases.

**Julie Shaw** is a lecturer in the Griffith School of Nursing and Midwifery and a consultant nurse educator at Gold Cost Health Service, Gold Coast, Australia. She is a national committee member of the Australian Nurse Teachers' Society. Dr Shaw has worked as a clinician, manager and educator in both hospital and university settings.

**Carole Steketee** is director of the Learning and Teaching Office at the University of Notre Dame, Australia. Previously, she was the associate dean Learning and Teaching in the School of Medicine at Notre Dame where she oversaw the quality of the curriculum and student learning experience. Carole has been involved in a series of collaborative, commonwealth-funded projects exploring a national approach to sustainable interprofessional health education.

**Christine Sly** is a principal medical education officer and medical student coordinator, Gold Coast Health, and teaches medical students clinical skills. She is a registered nurse with 30 years' experience and has a Masters in Health Science (Clinical Education) and Bachelor of Arts. She has developed an interest and expertise in beginning practitioner transitioning to the workplace.

**Linda Sweet** is an experienced registered nurse and midwife in clinical practice, research, management and education. She is head of Teaching Section Midwifery and Higher Degree by Research Coordinator, College of Nursing and Health

Sciences, Flinders University. She has a strong focus on health professional education through both her teaching and research, presenting in the Asia Pacific region.

**Chee Yan Ting** works as a research assistant at Monash University, Australia, and is also a practising physiotherapist.

**James Townshend** is a pharmacy practice lecturer at Griffith University, Gold Coast Campus, Australia. He has practised as a community pharmacist for over 20 years and is currently employed as the primary placement convenor for programs hosted by the School of Pharmacy and Pharmacology, Griffith University. His research interests lie in the development of patient-focused, agentic, learners through both WIL experiences and high-fidelity simulation of the practice environment.

**Neil Tuttle** is a senior lecturer in the School of Allied Health Sciences at Griffith University. He has received substantial funding for Simulation-Based Learning across six allied health disciplines and continues to teach both clinical and simulation skills for both students and health professionals.

**Thea van de Mortel** is the deputy head (Learning and Teaching) of the School of Nursing and Midwifery, Griffith University. She has worked in the tertiary education sector across several decades and three universities in the fields of nursing and science as an educator, curriculum developer and researcher.

**Benjamin Weeks** is a senior lecturer in the School of Allied Health Sciences at Griffith University, Gold Coast, Australia, and a senior fellow of the Higher Education Academy, UK. He has worked as a physiotherapist in rehabilitation, private practice and aged care settings and teaches across neurological rehabilitation and clinical science areas.

**Lauren T. Williams** is professor of Nutrition and Dietetics at Griffith University, a fellow of the Dietitians Association of Australia and a member of the Council of Deans of Nutrition and Dietetics Australia and New Zealand. She is director of the Bachelor of Nutrition and Dietetics degree and has spent decades pursuing a scholarly approach to dietetic education in Australia.

# Part I
# Augmenting Post-practicum Experiences

# Chapter 1
# Augmenting Post-Practicum Experiences: Purposes and Practices


**Stephen Billett**

## 1.1 Post-Practicum Experiences

Providing effective educational interventions after health- and social care students have completed practicums is the central focus of this edited monograph: post-practicum experiences. This opening chapter sets out and discusses the nature of these experiences and the range of educational purposes for which they can be provided for health- and social care students. This includes consideration of why and how students' practicum experiences can be augmented to secure specific learning outcomes. Earlier studies within programmes appraising work-integrated learning arrangements (Billett, 2011, 2015) indicated that to optimise the educational benefits of practicum experiences, it is helpful to prepare students prior to their engagement in practicums, support them during their practicums, and identify ways and enrich those experiences once they had completed their practicums. From these studies, particularly rich learning was identified as arising through engaging students in considering, sharing, comparing, and contrasting what they had encountered in their practicums. By this point, students have authentic experiences of occupational practices and the circumstances of their enactment and as a consequence are well positioned to actively appraise their experiences in an informed way (Billett, Cain, & Le, 2017). That appraisal can occur through processes in which they can share and compare with peers and/or their teachers or workplace supervisors (e.g. clinicians) or engage in processes such as writing journals and reflective logs that engage them in reviewing their experiences and those of other students.

Although there was evidence of the potential for developing rich learning outcomes through these kinds of processes, there is little evidence that structured post-practicum interventions were being used within Australian higher education. This

S. Billett (✉)
Griffith University, Gold Coast, QLD, Australia
e-mail: s.billett@griffith.edu.au



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_1

concern points to potential lost opportunities to augment students' experiences in work settings in ways that optimise their learning and its applicability to the students' intended occupational pathways. These opportunities can be easily built into the university-based components as part of course processes and, thus, maximise the significant institutional and personal investments involved in student practicums.[1] These processes then became the focus of the teaching and learning grant – *augmenting students' learning for employability through post-practicum educational processes* – that supported a number of pilot projects that became the source of the chapters in this edited monograph. In different ways, the contributions to this monograph are about some of the ways in which post-practicum interventions can be used to strengthen and extend the learning that students derive from their practicum or workplace experiences. Importantly, these contributions report the processes and outcomes of their pilot studies in ways that are informative and illustrative. This includes indicating problems that arise through the implementation of these interventions and, in some cases, lessons learned from less than satisfactory processes and outcomes. Hence, the contributions to this book seek to advise and inform practice, as well as make to important conceptual contributions. These issues are seen to sit within what is often referred to as work-integrated learning in some countries, cooperative education in others, and accepted as good educational practice quite widely.

The specific tasks for this opening chapter are (a) setting out the rationale for providing post-practicum interventions, (b) elaborating the particular purposes to which they can be directed, and (c) identifying how the efficacy of these experiences might be promoted through maximising their learning potential. Central here is the importance of identifying ways of integrating students' experiences in the two different settings (i.e. clinical practice and classroom) through reconciling the contributions of these experiences and directing that learning towards achieving the outcomes of students' programmes. Reference is made to conceptions of integration or reconciliation of those experiences and also the particular outcomes to be achieved and how different conceptions come to shape the kinds of educational interventions that can be selected to achieve those outcomes. This discussion extends to considerations of the organisation and provision of students' experiences (i.e. the curriculum) as well as how educators or clinical practitioners can come to enrich those experiences (i.e. pedagogic practices). Equally important is focussing on how students come to engage with these experiences, reconcile what they have experienced, and secure the quality and kinds of learning that arise from them. Being open to a range of options and possibilities in terms of the organisation and structuring of post-practicum interventions is salient to these deliberations, that is, not being constrained by a requirement that these interventions need to be led by more informed partners (e.g. teachers or clinicians). Instead, there is a need to be inclusive of how group-, individual-, or peer-led processes can also help in engaging

[1] The term practicum is used as a shorthand for the range of workplace experiences (i.e. clinical placements, clinical experiences, teaching placements, internships, etc.), although acknowledging their differences.

students to utilise their experiences and those of others to support their learning, albeit through critical engagement and appraisal.

The key rationales advanced here for providing post-practicum educational interventions for university students are threefold: (a) informing their selection of occupations or specialisms, (b) developing the capacities to perform those occupations or specialisms beyond graduation, and (c) extending their capacities to effectively learn across working lives through managing their learning experiences and through accessing models of professional development that will be effective in practice.

A key consideration when discussing these matters is foreshadowed above; that is, the need to distinguish between 'work-integrated learning' (WIL) and 'work-integrated education' (WIE). The former is about individuals' learning and personal processes of how students construe and construct knowledge from what they experience. As noted, this includes how they reconcile the distinct experiences they have in workplaces and educational institutions and engage in deliberate construction processes that support that reconciliation in purposeful way. These processes are likely to be person dependent by degree and are necessarily based on what the students know, can do, and value (i.e. their personal epistemologies). These are the bases of their experiencing, that is, what and how they experience, reconcile those experiences, and develop further through them. In curriculum parlance, this is referred to as the 'experienced curriculum': what students take or appropriate from what is provided them through the design, organisation, and implementation of the curriculum, referred to as the 'intended curriculum' and 'enacted curriculum' (Brady & Kennedy, 2003). Educational provisions (i.e. the selection, kind, and ordering of experiences) are, therefore, intentional in design and directed towards achieving particular educational intentions (i.e. aims, goals, and objectives). In this case, the provision of experiences in both workplaces and educational settings comprises what is intended and enacted; that is, the organisation and implementation of experiences aimed to promote student learning of particular kinds (Brady & Kennedy, 2003).

So, there are differences between what constitutes work-integrated learning (individuals' process of experiencing) and work-integrated education (i.e. the organisation and enactment of experiences). These distinct concepts are initially elaborated here before consideration is given to the rationale for post-practicum interventions, the purposes to which they are directed, and the efficacy of their processes. Without a clear understanding of the distinctions between work-integrated learning and work-integrated education, it is not possible to fully elaborate concepts such as 'integration of experiences' and the important distinctions amongst the intended, enacted, and experienced curriculum. Hence, there is an initial need to elaborate what constitutes work-integrated learning and also work-integrated education.

## 1.2 Work-Integrated Learning and Work-Integrated Education

The phrase 'work-integrated learning' has been adopted broadly in Australia, and analogous concepts (e.g. co-op education) are used elsewhere to describe the provision of experiences for tertiary students in workplace and educational institutions designed to assist them learn the kinds of knowledge needed to effectively practice their preferred occupation on graduation (Cooper, Orrel, & Bowden, 2010). The interest in work-integrated learning likely arises from concerns about the efficacy of university-based education provisions alone to achieve this outcome. Pragmatic assertions include the need to assist graduates to be 'job ready'—that is, not just adequately prepared for an occupation but for the specific job they secure after graduation. However, regardless of whether this is about educational effectiveness or personal preparation, there is broad interest in and a growing movement to provide higher education students with practicums to augment the activities and interactions provided by the university, as these are different from those that are required for practising the occupation. Of course, those activities in university settings are designed and enacted to achieve educational goals (i.e. those of the institution), and these may not always align with the requirements of practice. Within the health- and social care sector, there have been long-standing traditions to provide students with practicum experiences during their occupational preparation (Cooke, Irby, & O'Brien, 2010); also, they are a requirement for occupational registration. There is often not only requirement for educational focus, but education reforms are increasingly embracing and utilising these experiences more effectively (Cooke et al., 2010). However, in other occupational fields, the provision and integration of work experiences within occupational preparation are less common and less well resourced, structured, or even practised at all. So, the term 'work-integrated learning' is now being broadly adopted within higher education programmes that are preparing students for employment within a growing number of professional or occupational fields.

In considering how to design and effectively enact these experiences, including how students come to engage with and learn from these educational provisions, it is important to understand the difference between work-integrated learning and work-integrated education, as foreshadowed. This is because these are two distinct concepts, and much of what is currently referred to as work-integrated learning (i.e. something that students do) would be more accurately described as work-integrated education (i.e. the intentional provision of experiences for achieving intended outcomes). More than a semantic difference, the distinctions between work-integrated learning and work-integrated education are fundamental to conceptualising, discussing, organising, acting, and evaluating this education project.

Work-integrated learning has been defined in specific ways in key texts within the field. For instance, Patrick et al. (2008, p. iv) refer to work-integrated learning as:

> … an umbrella term for a range of approaches and strategies that integrate theory with the practice of work within a purposefully designed curriculum.

In their book, Cooper et al. (2010) define work-integrated learning as:

> … the intersection and engagement of theoretical and practice learning. The process of bringing together formal learning and productive work, or theory and practice. Constructing one system using available knowledge from several separate sources. Other terms used to describe work integrated learning include practicum, internships, fieldwork, cooperative education, field education, sandwich course, service learning, international service learning. (p. xiii)

Smith et al. (2009) define work-integrated learning as:

> Learning which is embedded in the experience of work: which may be work which is paid or unpaid; or full-time or part-time; or formally endorsed as part of a university course; or extra-curricular and complementary of studies; or totally independent of studies; in the past, present, or future; and which is made meaningful for a student when reflected upon in terms of personal learning and development occurring as part of a career development learning experience or course-related process. (p. 8)

The first of these definitions (Patrick et al., 2008) refers primarily to the provision and ordering of educational experiences (i.e. work-integrated education). The second (Cooper et al., 2010) refers to learning but also the organisation and provision of educational experiences, finishing with a list of such intentional experiences (i.e. work-integrated education). The third (Smith et al., 2009) emphasises learning through particular experiences, albeit organised as an element of university courses, yet emphasising the personal basis upon which that learning proceeds. In this way, it embraces both work-integrated education and work-integrated learning. So, some of these definitions or parts of these definitions variously refer to either 'work-integrated learning' or 'work-integrated education'. The purpose of identifying these distinctions is not to pick an argument or to necessarily disagree with these definitions; it is important to be clear about what is being defined and to make the point that learning is a very different concept and process than education. The former, as foreshadowed, is about individuals' processes of construing in constructing their knowledge from what they experience either immediately or in retrospect (Billett, 2009a), which includes how they come to reconcile the distinct experiences they have in workplaces and educational institutions (Billett, 2015). These learning processes are likely to be person dependent by degree and based upon what individuals know, can do, and value that has arisen from previous experiences or pre-immediately (i.e. before the specific experience) (Valsiner, 1998). It is these earlier experiences and constructions arising from them (i.e. their learning and development) that shape how they engage with what they learn from subsequent experience. But, individuals' pre-immediate experiences are dependent upon their personal trajectories and mediation of what they have experienced. As a consequence, students will come to mediate what they experience in potentially quite distinct ways based upon what they know, can do, and value. What might be seen by one student as a difficult experience, another might see as a positive learning opportunity. That difference can be about procedural competence (i.e. the level of ability to respond to what is experienced) or the valuing of particular kinds of experiences. Consequently, for example, the actions of a supervisor might be seen by one student as overly controlling and dismissive of students' contributions, yet for another the close

supervision is considered helpful and supportive. So, whilst we seek to secure intended outcomes from intentional educational efforts (i.e. the provision of experiences), we cannot fully control the 'experienced curriculum': how students come to engage with or learn from what has been afforded them.

Therefore, it is not possible to predict with confidence what students will learn from particular experiences. This is why curriculum provisions are referred to both as being intentional and also as the specification of learning outcomes that can only ever be intended aims, goals, and objectives. There can be no certainty that what is provided for students in practice settings will lead to particular kinds of learning outcomes, albeit despite the best efforts of carefully designed experiences and the shepherding and guidance provided by teachers and students who come to engage with those experiences as directed towards particular purposes. This is why, beyond curriculum as intent (i.e. what is intended to be achieved) and as what is implemented (i.e. the enacted curriculum), there is also a need to account for the 'experienced curriculum': what students take from what is provided them through the enactment of the curriculum. In the case of what is frequently referred to as work-integrated learning, the intention is often to provide and in some ways combine the provision of experiences in both workplaces and educational settings. In this way, work-integrated education (WIE) comprises the organisation and provision of experiences aimed at promoting student learning of a particular kind (e.g. developing adaptable occupational capacities, familiarity with circumstances of its practice). That is, it constitutes the intended and enacted curriculum (i.e. what is actually implemented in and through these two sets of arrangements). However, conceptually and procedurally, WIE cannot and does not explain the experienced curriculum: how students come to engage, construe, and construct what they learn within and through the sharing, comparing, and contrasting of their experiences. This is the personal process of work-integrated learning.

Learning is, therefore, something that people do and in ways that are person dependent as shaped by what they know, can do, and value and how they exercise those capacities when engaging with a particular experience (Billett, 2009a). Human learning is dependent on having a sensory, neural, and cognitive system that engages directly and indirectly with the process of human experiencing. Individuals' knowledge and knowing, as foreshadowed, arise from earlier experiences that are in some ways unique to each individual and as mediated by individuals' intentionality (Malle, Moses, & Baldwin, 2001), interests (Boekaerts & Boscolo, 2002; Tobias, 1993), and energy (Billett, 2009a; Searle, 1995) or even interpretations (Berger & Luckman, 1967). This process occurs all of the time every day through the moment-by-moment experiencing that comprises our everyday cognition, which is referred to as microgenetic development (Scribner, 1985). This ongoing process of learning through everyday and ongoing meaning-making contributes to individuals' accumulation of what they know, can do, and value, referred to as ontogenetic development (Scribner, 1985) that arises through our life courses. So, when humans have experiences such as those in educational and workplace settings, we deploy our knowledge and ways of knowing which mediates what is experienced and learnt: the process of experiencing. As it is found within our personal histories, ontogenetic

development is in some ways personally unique and dependent. Human learning, in this way, is a personal fact (Billett, 2009a).

Education, on the other hand, is the provision of experiences. These are usually identified, organised, ordered, and enacted through institutions such as schools, colleges, and universities (Marsh, 2004), although workplaces also have curricula (Billett, 2006). In this way, education is an institutional fact: it is derived from society (Searle, 1995). The vast majority of educational provisions are organised by institutions (e.g. state or religious bodies) to achieve their particular purposes. These institutions and their processes are inevitably external to those who engage with them and are often done at a distance from those who are supposed to enact them. There are few provisions of education that are wholly designed and shaped by those who enact them and for good reasons.

So, there are important distinctions between what constitutes work-integrated learning (WIL) and work-integrated education (WIE). The former is personal fact, arising from individuals histories, and the latter is institutional fact – a product of the means by which a society seeks continuity. Both of these concepts are important and central to providing and engaging students in effective learning experiences. However, it is salient to understand the differences between them, because without this there is a great risk that the orthodox privileging of educational provisions will dominate over a consideration of individuals' learning. That is, discussions, appraisals, and ways of seeking to learn experiences for students may become restricted to what is intended and enacted, and the importance of the experienced curriculum will be downplayed.

Clearly, and ultimately, the overall concern is with student learning. Therefore, definitions, considerations, and deliberations about what is referred to as work-integrated learning or WIL need to encompass both a consideration of what is being referred to here as the provision of experiences through both work and educational settings and also how individuals come to engage with, experience, and learn through that engagement. Importantly, discussions about provisions of experiences (i.e. work-integrated education) end there. Considerations of work-integrated learning need to go beyond that and include how students come to engage with and learn from what is provided for them.

### *1.2.1 A Brief Reprise*

Of course, some may dismiss such distinctions as unnecessary and unhelpful and might suggest that the conflation between work-integrated learning and education has become orthodox. Indeed, such conflations exist elsewhere. For instance, much of what government and supranational agencies refer to as being 'lifelong learning' is actually lifelong education. A report to the UK government on lifelong learning by prominent academics (Schuller & Watson, 2009) suggested there was little difference between lifelong learning and lifelong education. This major report to government then elaborated an understanding of lifelong learning and policy

prescriptions for it in terms of the provision of educational experiences: that is, lifelong education. This report presented the process of lifelong learning as being one that can only be mediated through and constrained by the provision of educational experiences (i.e. taught courses and the like) (Billett, 2010). The lifelong learning that occurs outside of educational institutions and programmes, such as that through work, was ignored in such analysis. Of course, there is an entire literature that suggests that learning across working life – a key element of and basis for adult learning and development – occurs within work settings and activities. This process of learning and its outcomes are well acknowledged within many professions and have also been captured in empirical work such as the Program for the International Assessment of Adult Competencies (PIAAC) (Organisation for Economic Co-operation and Development, 2013). The key point here is that if processes of learning supported by teaching and intentional educational experiences are privileged and other processes and sources, such as those in work settings, are ignored, then considerations of what and how work-integrated learning proceeds will be far from complete. Hence, there is a need to consider both the processes and outcomes of work-integrated learning and work-integrated education, even if they are captured under a common title.

As can be seen in Table 1.1, there are clear distinctions in how key educational concepts such as readiness, curriculum, integration, intentions, and outcomes are

**Table 1.1** Differences in meaning across key concepts

| Concept | Meaning within work-integrated learning | Meaning within work-integrated education |
|---|---|---|
| Readiness | The level and kind of individuals' knowledge that mediate how they engage with experiences and learn from them | The awareness, understanding, and capacities that educators and employers have to provide effective learning experiences for students |
| Curriculum | Something that is experienced by the learner dependent upon their pre-immediate experiences and what they know, can do, and value | Something to be identified, planned, organised, enacted, and evaluated to achieve particular kinds of purposes |
| Integration | Individuals' integration of experience arises through their reconciliation | The provision of experiences in both kinds of settings and deliberate attempts to integrate those experiences |
| Intentions | To achieve personal goals in completing courses and programmes, graduating, and securing employment and progression | To achieve the stated educational outcomes of the programme and to meet occupational requirements and professional registration |
| Outcomes | Developing the kinds of capacities required for effective occupational practice and sustained employability in chosen occupation | Successful graduations and graduate placements |
| Mediational means | Individuals' ways of knowing; means construing and constructing knowledge based upon what they know, can do, and value: their readiness | The provision of experiences and augmentation of those experiences through teaching and other pedagogic means |

manifested in both work-integrated learning and education. These concepts have been used in the text above and are tabulated here merely to emphasise the importance of these differences in meaning across the two sites.

As concerns about providing students with workplace experiences for educational purposes increase and the importance of these provisions and their integrations become clearer, comprehensive understandings about these kinds of processes and outcomes that can be achieved through these provisions become more salient. On the one hand are consideration of the ordering, organisation, and duration of experiences, including pedagogic interventions, that is, work-integrated education. On the other hand are sets of considerations how students come to reconcile experiences in these two distinct kinds of settings, that is, work-integrated learning. These considerations set out not only a conceptual but also a practical context to consider post-practicum experiences and the purposes they aim to achieve.

## 1.3 Rationale for Post-Practicum Experiences

There are a range of educational rationales for providing higher education students with work experiences and intentionally seeking to integrate these into students' programmes of study (Billett, 2009b). These rationales are framed by the seminal work of Dewey (1916), who advanced two broad goals for occupational education. Both of these are seen to be worthwhile and central to the provision of workplace experiences and their integration into students' programmes of higher education. The first is to assist individuals understand to which occupations they are suited, and the second is to assist individuals develop the capacities to practise them. These are briefly elaborated below.

### *1.3.1 Identifying to Which Occupations Individuals Are Suited*

Dewey (1916) proposed that when individuals find themselves engaged in uncongenial callings (i.e. work or occupations) to which they were unsuited, it is a waste of human endeavour, interest, and talent. He likened such a circumstance as akin to them being a galley slave. As a consequence, he emphasised the importance for educational processes to assist individuals identify occupations to which they are suited. This can include providing students with exposure to the kinds of occupations they are considering so that they can make informed choices about occupations' alignments with their interests and students' suitedness to learn and practice them. This is an important educational consideration. When individuals select an occupation to pursue, it can lead to extensive personal and institutional investments, and, as a consequence, this needs to be an informed process (Meijers, Lengelle, Winters, & Kuijpers, 2017). In earlier times, the choice of occupations was often associated with what occurred in family and what familiars did for paid work.

However, in the contemporary era, and indeed since modernity, increasingly options for employment go beyond those in which people's parents and familiars engage. Moreover, many occupations now have a specific tertiary education programme as a precursor to enter and practise them, even as a novice. These programmes have their own entry requirements, usually based on earlier educational achievement.

Concerns about informed choices of occupations and occupational preparations are very real and relevant (Smith et al., 2009). Currently, there is significant dropout in some programmes of occupational preparation during and after their completion. It is well understood, for instance, that in Australia over 50% of apprentices do not complete their apprenticeships and, of those who do, large numbers subsequently leave these occupations post their apprenticeships. Similarly, with occupations such as nursing, there is also a high attrition rate. At least some of this attrition is associated with the work being different from what was anticipated and individuals finding themselves ill-suited to the practice of nursing (Newton, Kelly, Kremser, Jolly, & Billett, 2009). I used to teach students in vocational education courses about clothing design and manufacture. Many of these students had erroneous and unrealistic conceptions of work in the clothing industry (i.e. fashion industry) and were surprised about the kinds of work they would be expected to do upon graduation. There was often a significant mismatch between the kinds of interests that drew them to the course initially (e.g. designing garments) and the reality of the work in the garment manufacturing industry. So, decisions about being unsuited to their preferred occupation come at a significant cost for individuals (i.e. time, financial expenditure) and investment in provisions of education and for workplaces supporting any learning experiences.

Hence, part of the educational provision for occupations is to inform students about their selected occupations and seek to identify an alignment between their capacities and interests and that occupation. Consequently, it has been found that having exposure to the occupation in action or in practice as early as possible and having opportunities to experience, observe, and make judgements about that occupation are helpful (Cartmel, 2011; Newton, Billett, Jolly, & Ockerby, 2009). Also, students' ability to engage in processes where they can discuss their experiences and find solace and support in difficult times can assist to mediate these experiences and, potentially, can inform decisions in helpful ways about staying or leaving their preferred occupation (Richards, Sweet, & Billett, 2013). In this volume, Clanchy, Sabapathy, Reddan, Reeves, and Bialocerkowski (2018); Kirwan, Tuttle, Weeks, and Laakso (2018); and Williams, Ross, Mitchell, and Markwell (2018) detail specific interventions to assist students plan their careers and promote their direct employability post-graduation. These interventions include focuses on processes to advise students about the range of occupational and career options, understanding and developing the capacities for effective transition from being a student to being an employee, and assisting the development of career planning.

### 1.3.2 Assisting Individuals to Develop the Capacities to Practise Their Selected Occupation

The second educational purpose Dewey (1916) identified was to effectively prepare individuals to practise their selected occupation, that is, organising experiences that develop the conceptual, procedural, and dispositional capacities associated with practising the occupation. Three decade-long programmes of research within cognitive science on human expertise identified the bases of these kinds of capacities, which displaced earlier explanatory schemes, principally Bloom's taxonomy. The research on expertise found that effective occupational performance relies upon three kinds of domain-specific knowledge: conceptual, procedural, and dispositional. It is worth elaborating these three forms of knowledge as they are central to any consideration of developing occupational capacities through education. These are:

- Domain-specific conceptual knowledge – 'knowing that' (Ryle, 1949; Sun, Merrill, & Peterson, 2001) (i.e. concepts, facts, propositions – surface to deep) (e.g. Glaser, 1989; Greeno & Simon, 1988; Groen & Patel, 1988)
- Domain-specific procedural knowledge – 'knowing how' (Donald, 1991; Ryle, 1949) (i.e. specific to strategic procedures) (e.g. Anderson, 1993)
- Dispositional knowledge – 'knowing for' (i.e. values, attitudes) related to both canonical and situated instances of practice (e.g. Perkins, Jay, & Tishman, 1993) and includes criticality (e.g. Mezirow, 1981)

These kinds of knowledge pertain to a particular domain of activity (e.g. an occupation) and suggest that, rather than generalisable capacities, expert performance is specific to a domain of activity in which individuals participate and perform. Hence, whilst problem-solving capacities are important, it is the ability to problem solve within a particular domain (i.e. occupation) that is essential, which is also the case in a particular circumstance of practice (i.e. situated performance requirements). Each of these three kinds of domain-specific knowledge has its own qualities (e.g. specific and strategic procedures, factual to complex conceptual premises, personal, and institutional dispositions) that have arisen through history and that have cultural relevance and situational pertinence (Billett, 2003). These forms of knowledge are likely developed by individuals through their opportunities to engage in and construct personal domains of this occupational knowledge through accessing and engaging in a range of experiences.

### 1.3.3 Kinds of Domain Specificity

There are at least three forms of domain-specific knowledge (Billett, Harteis, & Gruber, 2018 in press; Scribner, 1984): (a) canonical occupational knowledge, (b) situational requirements of practice, and (c) personal constructions of that

knowledge. The first two are found in what is sourced in and projected by the social world, and the third is a product of individuals' construction. Each of these three forms is important to the development of occupational knowledge. First, there is the canonical occupational knowledge comprising what all of those practising the occupation would be expected to know, do, and value (i.e. the conceptual, procedural, and dispositional canonical knowledge). This domain is that which is captured in national standards or statements about occupational requirements and curriculum documents associated with that occupation. Then, there is the manifestation of the occupational requirements in the circumstances where the occupation is practised: that is, the knowledge required for a particular instance of practice. The actual requirements for occupational practice differ widely given the particular situational requirements and circumstances of its enactment (Billett, 1996). Third, there is the personally constructed domain of occupational knowledge that arises ontogenetically (i.e. throughout individuals' life history) through moment-by-moment learning. The construction, organisation, intersections, and indexing of individuals' knowledge arise through personal processes of construction. That is, over time and through sets of person-particular experiences and experiencing, individuals develop their own domain of occupational knowledge. What these three domains suggest is that whilst students need to learn the canonical knowledge of the occupation, they must also be open to something of the variations of that occupation in practice for the initial ability to practise and capacity to resolve problems and work across different occupational contexts. The personal domain of knowledge that individuals construct is likely to be a product of the experiences they have had, how these experiences were mediated for them, and how they have mediated (i.e. the process of experiencing) them themselves.

Consequently, to become an effective practitioner, there is a need to develop the domain-specific procedural, conceptual (Glaser, 1984), and dispositional (Perkins et al., 1993) capacities required for the occupational practice. These are the domain-specific procedures, concepts, and values required to be a doctor, hairdresser, plumber, vacuum cleaning salesperson, or lighthouse keeper. In addition, there is the particular set of concepts, procedures, and dispositions required for effective practice: that is, the requirements of the particular circumstances in which doctoring, hairdressing, plumbing, vacuum cleaning, and lighthouse keeping are practised (Billett, 2001). These three forms of knowledge (i.e. conceptual, procedural, and dispositional) are those required to be accessed and constructed by individuals seeking to learn them.

It is worth briefly summarising these three forms of knowledge. Conceptual or declarative knowledge comprises concepts, fact, propositions, and richly interlinked associations amongst these. It is what we know about. This form of knowledge can be spoken about and written down; hence, it is sometimes termed as 'declarative' (Anderson, 1982; Glaser, 1984). Much of this knowledge can be represented in books, texts, and other forms of media or artefacts. This is the kind of knowledge that has become privileged within educational institutions and practices because it can be declared and therefore assessed and easily appraised. This kind of knowledge also has orders of depth. The progression for the development of complex conceptual

knowledge of the kind required to clinical reasoning, for instance, tends to move from understanding basic factual knowledge through to propositions and associations amongst concepts. Deep conceptual knowledge is usually associated with understanding the relations between sets of concepts and propositions of this kind (Groen & Patel, 1988). So, post-practicum experiences such as the discussion of cases or evaluating a range of responses to clinical cases can be of the kind that leads to the development of these capacities.

Procedural knowledge is the knowledge that we use to achieve goals, albeit through thinking or acting. Unlike conceptual knowledge, it cannot be easily declared or easily represented, because much of it is rendered tacit through its construction (i.e. learning) (Anderson, 1982; Shuell, 1990). The progression of development of this kind of knowledge is usually seen as being from specific procedures (i.e. taking a temperature, inserting a stent) through to strategic knowledge such as being able to enact a multi-parted medical or healthcare procedure. The development of these processes is from the rehearsal of parts of specific procedures and their joining up (compilation) until these are able to be performed without reliance on conscious memory (i.e. proceduralisation) through to being able to understand and diagnose across a range of circumstances (Anderson, 1982). This is permitted because conscious memory is able to focus on more strategic issues. This development, at all these stages, likely arises from the opportunity to participate in activities and interludes associated with the particular domain of activities. At one level, the rehearsal of specific procedures permits them to be undertaken without conscious thought. At another level, the repertoire of experiences that individuals can access and understand leads to the ability to predict and evaluate performance. This is important because it is the ability to predict, postulate, and then evaluate these early decisions which is central to monitoring effective care. It is, again, opportunities such as post-practicum that allow the thinking and acting behind these cases to be elaborated and shared and, in doing so, develop participants' procedural capacities in terms of their reasoning and evaluating in response to problems such as healthcare.

Dispositional knowledge comprises interests and beliefs that motivate and direct human cognition (Malle et al., 2001). Dispositions exist at the social level in terms of what is appropriate professional practice (e.g. confidentiality, discretion, patient care) and also personal values associated with how individuals conduct themselves. These dispositions are important because not only do they energise the use and development of concepts and procedures (Perkins et al., 1993) but they also shape the direction, intensity, and degree of their enactment (Billett, 2008). Dispositions are likely developed through individuals' beliefs and are negotiated through their encounters with particular experiences. It is often through observation, and then subsequent discussion and sharing, that personal professional values emerge. The important concern is that these develop in ways appropriate to the occupational practice, and also effective practice, and post-practicum experiences can assist directly in this development.

### *1.3.4 Post-Practicum Interventions and Learning Occupational Knowledge*

It follows then that there is a broadening interest in providing students with work placements or practicums to develop the kinds of knowledge set out above and that building these experiences into the tertiary curriculum is becoming increasingly common. It is also evident that to achieve both of Dewey's (1916) goals requires a range of experiences, such as those in healthcare settings, but also some structured ways of directing and augmenting them to achieve the particular intended educational outcomes. The point here is that experience alone is insufficient and that mediation of those experiences by more experienced practitioners can be helpful in assisting individuals to more effectively mediate these experiences themselves in purposeful and effective ways. Each of the contributions to this edited volume, in different ways, addresses this fundamental issue: that is, what combination of educational interventions and individual mediations are likely to assist augmenting students' experience in work settings?

There are particular curricular and pedagogic considerations for developing these capacities (Billett, 2014). Not the least of these is viewing workplaces as legitimate learning environments for students to develop conceptual, procedural, and dispositional knowledge and in ways that they would not necessarily realise through the experiences provided by educational institutions alone. Post-practicum experiences in the form of interventions of different kinds offer particularly potent approaches for this development. That is, students can develop their nascent and tentative personal domain of occupational practice by drawing on their experiences in practice setting to complement those provided through activities afforded by participation in university-based activities. Moreover, they can develop further their personal domain of occupational knowledge through the sharing and comparing of experiences of other students through structured post-practicum experiences such as those provided for medical students (Harrison, Molloy, Bearman, Ting, & Leech, 2018; Steketee, Keane, & Gardiner, 2018, this volume). These interventions seek to establish ways for students to engage with and learn from experiences of different kinds of clinical practice. These activities provide opportunities for students to access knowledge, particularly that which cannot easily be observed, through discussion or instances, are of the kind that prompt and demand justification and validation, and are likely to be the kinds of experiences that secure the development of higher orders of conceptual, procedural, and dispositional capacities. Hence, within all of this is the promise and potential of post-practicum interventions.

Thirdly, were he to be alive today, Dewey doubtless would also propose another purpose for occupational education, that is, developing individuals' capacities so that they can engage in and continue to learn across their lengthening working lives. This is associated with developing the personal strategies and capacities to sustain their employment over lengthening working lives. Given the changing nature of work, work practices, and how work is undertaken and with whom, there is an ongoing need to learn and develop further across working life. It may well be the kind of

processes that are engaged through post-practicum interventions that can establish models for supporting that ongoing development. That is, these interventions can help individuals develop personal and group learning strategies of the kinds that individuals need to engage more effectively in mediating their learning. These can also stand as models for how ongoing development, such as through journal clubs and Balint meetings, might progress in effective ways.

It follows then that key rationales for providing post-practicum educational interventions are those associated with: (a) informing their selection of occupations or specialisms, (b) developing the capacities to perform their selected occupations or specialisms beyond graduation, and (c) extending their capacities to effectively learn across working lives through developing their capacities to action and mediate learning experiences and through models of professional engagement that can support that learning. In the following section, in turn, each of these is addressed.

### *1.3.5 Informing the Selection of Occupations or Specialisms*

As noted earlier, choices about selecting occupations are often made on fairly uninformed bases, simply because the information or representations that people have about specific occupations may be quite incomplete or erroneous. Perhaps this is not surprising given that much of work is often conducted in ways that are not easy to observe and understand fully. It seems that even when there are opportunities to observe occupations in action, it does not necessarily lead to informed understandings. For instance, student teachers who have just completed 12 years of schooling themselves are often surprised at the experiences they have in classrooms as novice teachers and, in particular, the behaviour of students. Informants in studies of both school age (Billett & Ovens, 2007) and university students (Billett, 2015) stated the importance of having experience of their preferred occupation as early as possible in their tertiary education so they could understand what it comprised and whether they would like doing it. School-age students express concern that they might embark upon tertiary education programmes where they would not come to actually experience the occupation for which they are being prepared until the second or third year of that course. They were concerned about the loss of time and costs associated before they could decide whether their preferred occupation was suited to them (Billett & Ovens, 2007). The university students also requested that early and staged engagement was important for them to be introduced to their preferred occupation but also that their participation was enacted gradually and in ways that were not overly confronting or challenging. That is, they were seeking to actually experience the occupation in practice and for their roles to incrementally engage them in these workplace experiences (Billett, 2015).

Of course, all of this is ideal, and, increasingly, work-based experiences are being provided in higher education courses and in fields such as healthcare, within the first year of study. Yet, one of the features of practicum or workplace experiences is that these cannot wholly be controlled by the education institution. Students are going to

have experiences which they will find variously interesting, rewarding, challenging and, sometimes, confronting. This situation has led to considerations of providing interventions to assist students manage the circumstances and find support and guidance about what they have experienced and how this aligns with their intentions for their preferred occupation. For instance, there were reported concerns that social welfare students would find encounters with social welfare clients confronting and may need processes to support them to engage positively with such encounters (Cartmel, 2011). This led to the trialling of learning circles for these students so they would have peer support. These processes were established before the students engaged in their placements and then continued during and after placements.

Similarly, concerns about student nurses feeling isolated and being overwhelmed in large teaching hospitals led to similar processes of peer support for students to meet in groups within hospital settings (Newton, 2011). These arrangements were used to provide support and guidance to students; they were initially led by a clinically competent teacher, and then students took responsibility for these meetings. The point here is that these interventions were to augment the experiences students were having and to provide support at the early stages of their engagement in their preferred occupations. The concern is that without being mediated, these experiences may lead to students forming restrictive or negative perceptions and lead to their withdrawing from course. Wherever possible, it is helpful to ensure that this kind of decision-making is informed through mediated processes.

Whilst the reference here is about validating or otherwise selecting occupations, post-practicum interventions can also be useful for assisting with the choice of an occupational specialism, for example, whether nurses select to become general or specialist nurses and, of course, doctors identifying the specialism in which they want to train. In a study that focused on the experiences of first- and second-year doctors in the UK, it was found that these junior doctors' experiences had shaped their choice of preferred specialisms (Cleland, Leaman, & Billett, 2014). The junior doctors mainly reported having positive experiences that reinforced their initial choices for specialist training. However, there were also instances where negative and difficult experiences led to significant changes in the junior doctors' intended specialism. In one case, a young Asian woman who aspired to be one of the first female surgeons in her country had such a difficult experience in the surgery department during her placement that she opted for a very different specialism. Had her experiences been mediated in positive ways, a different outcome might have eventuated.

So, in addition to validating or revisiting decisions about a specific occupation, post-practicum interventions might also assist with informing about specialisms within an occupational field, options associated with alternate pathways, and options for that occupation. Post-practicum interventions, albeit led by teachers, clinicians, facilitators, or peer-led processes, may well assist here. In this volume, two of the studies intentionally structured experiences to assist students come to understand pathways into occupations that helped them appreciate the qualities of the occupation being enacted and the kinds of options and means for further advancing their careers (Clanchy et al., 2018; Kirwan et al., 2018). Also, in their chapter, Sweet and Bass (2018) discuss how post-practicum interventions provide a vehicle for assisting midwifery students to understand work and career trajectories.

### *1.3.6 Developing the Capacities for Occupational Fields*

Perhaps the most commonly stated purpose for higher educational programmes in the contemporary era is to prepare students for specific occupations or occupational fields. The vast majority of higher education programmes are directed towards specific occupations (e.g. nursing, medicine, journalism, teaching, etc.) or field of occupational practice (e.g. engineering, health sciences, etc.). Even those that are seen to be less occupationally specific, such as arts degrees, are often marketed and directed towards employable outcomes, for instance, for the public sector. As a consequence, providing experiences that prepare students for engagement in specific occupational fields has become a key concern for programmes within higher education. In some fields, such as healthcare, there have long been traditions about the provision of authentic clinical experiences and their interweaving within the programme of study. It would be unthinkable for medical, nursing, or physiotherapy education to progress without being accompanied by significant experiences in healthcare practice settings. In other fields, there have been less structured or conscious efforts to provide these experiences. Indeed, for some programmes, it is almost inconceivable that students would have the kind and extent of experiences enjoyed within healthcare programmes. Mass higher education programmes such as business, commerce, arts, and engineering would struggle to find, support, and effectively integrate work-based experiences for the very large numbers of students who participate in them. As a consequence, some of these disciplines have adopted approaches such as project work, applied assessment activities, and such formalised means of students securing experiences outside of the university setting.

There have also been efforts to utilise either students' earlier experience or current paid part-time work to engage students in considering pathways to employment beyond graduation (Smith et al., 2009). This particular focus is evident within this volume, and the majority of the contributions are associated with developing specific areas of occupational competence through educational interventions. For instance, in this volume Levett-Jones, Cortney-Pratt, and Govind (2018) focus on developing clinical reasoning skills through instructional and assessment interventions. In their chapter, Steketee et al. (2018) engage medical students after their practicums in a modified debriefing process for them to discuss, share, and compare clinical experiences to extend further their clinical knowledge. The particular process here is to adopt a process that positions the students to consider and make decisions on clinical bases, thereby engaging them in authentic clinical reasoning activities.

Broader capacities, such as the development of the ability to work interprofessionally, are also an important goal for the health- and social care system and are addressed through this volume in the chapter by Rogers, Parker-Tomlin, Clanchy, and Townshend (2018). Similarly, in their chapter, Sweet and Bass (2018) designed and enacted an intervention intended to generate the critical and strategic thinking processes with midwifery students to address their need to be practitioners who can solve problems and initiate care for patients in uncertain circumstances. Grealish

et al. (2018) in their project used a set of post-practicum interventions, including discussions and concept maps, to help develop greater levels of intersubjectivity and conceptual understanding associated with nursing practices. In the field of speech pathology, Cardell and Bialocerkowski (2018) used interventions focusing on the development of self-awareness, self-efficacy, resilience, and a positive occupational identity through processes that, again, press students to engage in thinking and acting in ways which would be authentic in terms of the exercise of this occupation.

In an attempt to capture and engage these authentic experiences, Newton and Butler (2018) engage students in the production of videos after they have completed their practicums to press them into drawing out key learning outcomes about the requirements of and processes for becoming a community nurse. As this kind of experience was outside the majority of students, Newton and Butler adopted a particular approach to engage students in considering the scope and breadth of community nursing work and encouraging them to articulate their appraisals through the production of a video. A similarly broad-based set of concerns are exercised in the debriefing interventions enacted with dietetics students to draw together, consolidate, as well as contrast and compare the range of practicum experiences at the end of the year (Williams et al., 2018). A 2-day workshop engages the students in structured activities to describe and explore their experiences as directed towards the requirements of becoming a dietician. The concerns were to assist them to engage with and productively respond to feedback (Noble et al., 2018) and enact an intervention for students to develop self-assessment capacities so that they can progress with building these capacities through a set of structured experiences which ultimately is about making them more self-confident and reliant to respond productively to feedback.

As indicated in this volume, such interest extends to assisting students' employability by focusing on portfolio presentation, preparing for job interviews, and understanding the potential fields and places for employment (Clanchy et al., 2018; Kirwan et al., 2018). So, these studies all demonstrate how specific goals associated with making students more occupationally proficient and able to engage in their occupational practice are set out. Of course, the accounts of these purposes, approaches, and outcomes are elaborated across the contributions of this edited monograph.

### *1.3.7 Extending their Capacities to Effectively Learn across Working Lives*

It is well understood that learning for occupations continues across working life as work requirements, technologies, ways of working, and client and patient groups change and come to interact in different ways: To remain competent and employable, workers now need to continue to learn across working life, seemingly without exception. The additional consideration here for post-practicum interventions here

is that in promoting students' ability to be intentional in their learning efforts and appraise their experiences in ways associated with effective learning, this provides them with personal strategies for use across working lives. In particular, the exercise of their agency, confidence to do so, and in considered ways can be a product of structured experiences that students find helpful in preparing them for their occupations and which they then could rehearse within their working lives. One of the outcomes of having structured post-practicum interventions is that students will be exposed to a series of models of how such activities can progress across their working lives. Often, as can be seen from the contents of this book, those interventions are through engaging with others, including more experienced others, and drawing upon events in participants' recent experience. These circumstances are replete within workplace activities and interactions, and opportunities for engaging in analogous arrangements may well arise in workplace situations such as in handovers, grand rounds, mortality and morbidity meetings, and case history meetings, for example.

Moreover, positive experiences with post-practicum interventions may well lead to graduates forming journal clubs and engaging in other peer-led and organised processes that focus on ongoing professional development, such as the Balint groups that Harrison et al. (2018) refer to in this volume. Similarly, the processes intended to be generated by the interventions to develop midwifery students as critical and strategic practitioners (Sweet & Bass, 2018) have the ability to inform their practice in the future. So, as well as developing personal capacities associated with supporting ongoing learning, the educational provision may provide examples and instances of how they can continue to learn across working life. In a similar way, Noble et al. (2018) are establishing capacities that will assist the participants across their working life as they will be better equipped to engage in the range of feedback that arises through their work activities.

## 1.4 Post-Practicum Interventions

It has been proposed in this chapter that post-practicum interventions have particular roles and places in the educational projects of assisting people identify which occupations they should pursue, how they develop the capacities to initially participate in that occupation, and then how they continue their learning across working life. As emphasised across this chapter and illustrated and exemplified across the contents of this volume, it has been proposed that educational interventions post-practicum can assist with and augment the quality and scope of students' learning, albeit in different ways and for a range of purposes. These interventions can take a number of forms. They can include teacher- or supervisor-led processes, all those in which students take the leadership role, processes that use artefacts such as videos and written text, as well as processes that are essentially assessment but directed in ways to also secure learning outcomes. Perhaps most importantly, it is necessary to affirm here the distinction between work-integrated learning and work-integrated

education, because this distinction necessarily emphasises the process of learning which is central to education projects but can often be overlooked through institutional practices, norms, and priorities. In the instances where students are engaging in workplace experiences this brings into play two sets of institutional imperatives – those of the education institution and those of the workplace – and those that sit between them, which can so easily overwhelm and distort the purposes for which these engagements are being enacted: student learning. Moreover, as the process of learning is ultimately premised upon the individual's mediation of what they experience, it is important to have student learning placed centre stage and central to our considerations of effective education provisions.

## References

Anderson, J. R. (1982). Acquisition of cognitive skill. *Psychological Review, 89*(4), 369–406.
Anderson, J. R. (1993). Problem solving and learning. *American Psychologist, 48*(1), 35–44.
Berger, P. L., & Luckman, T. (1967). *The social construction of reality*. Harmondsworth, UK: Penguin Books.
Billett, S. (1996). Situated learning: Bridging sociocultural and cognitive theorising. *Learning and Instruction, 6*(3), 263–280.
Billett, S. (2001). Knowing in practice: Re-conceptualising vocational expertise. *Learning and Instruction, 11*(6), 431–452.
Billett, S. (2003). Sociogeneses, activity and ontogeny. *Culture and Psychology, 9*(2), 133–169.
Billett, S. (2006). Constituting the workplace curriculum. *Journal of Curriculum Studies, 38*(1), 31–48.
Billett, S. (2008). Subjectivity, learning and work: Sources and legacies. *Vocations and Learning: Studies in Vocational and Professional Education, 1*(2), 149–171.
Billett, S. (2009a). Conceptualising learning experiences: Contributions and mediations of the social, personal and brute. *Mind, Culture and Activity, 16*(1), 32–47.
Billett, S. (2009b). Realising the educational worth of integrating work experiences in higher education. *Studies in Higher Education, 34*(7), 827–843.
Billett, S. (2010). The perils of confusing lifelong learning with lifelong education. *International Journal of Lifelong Education, 29*(4), 401–413.
Billett, S. (2011). *Curriculum and pedagogic bases for effectively integrating practice-based experiences*. Retrieved from Sydney: www.olt.gov.au/resource-integrating-practice-based-experiences-griffith-2011
Billett, S. (2014). *Mimetic learning at work: Learning in the circumstances of practice*. Dordrecht, The Netherlands: Springer.
Billett, S. (2015). *Integrating practice-based experiences into higher education*. Dordrecht, The Netherlands: Springer.
Billett, S., Cain, M., & Le, A. (2017). Augmenting higher education students' work experiences: Preferred purposes and processes. *Studies in Higher Education*. https://doi.org/10.1080/03075079.2016.1250073
Billett, S., Harteis, C., & Gruber, H. (2018). Developing occupational expertise through everyday work activities and interaction. In K. A. Ericsson, R. R. Hoffman, & A. Kozbelt (Eds.), *Cambridge handbook of expertise and expert performance* (2nd ed.). New York: Cambridge University Press.
Billett, S., & Ovens, C. (2007). Learning about work, working life and post school options: Guiding students' reflecting on paid part-time work. *Journal of Education and Work, 20*(2), 75–90.

Boekaerts, M., & Boscolo, P. (2002). Interest in learning, learning to be interested. *Learning and Instruction, 12*, 375–382.

Brady, L., & Kennedy, K. (2003). *Curriculum construction*. Frenchs Forest, Australia: Pearson Education.

Cardell, L., & Bialocerkowski, A. (2018). Bouncing forward: A post-practicum workshop to promote professional identity, self-efficacy, and resilience in master of speech pathology students. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Cartmel, J. (2011). A considered curriculum for preparing human service practitioners: Structuring circles of learning and change. In S. Billett & A. Henderson (Eds.), *Developing learning professionals: Integrating experiences in university and practice settings* (pp. 101–118). Dordrecht, The Netherlands: Springer.

Clanchy, K., Sabapathy, S., Reddan, G., Reeves, N., & Bialocerkowski, A. (2018). Integrating a career development learning framework into work-integrated learning practicum debrief sessions. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Cleland, J., Leaman, J., & Billett, S. (2014). Developing medical capacities and dispositions through practice-based experiences. In C. Harteis, A. Rausch, & J. Seifried (Eds.), *Discourses on professional learning: On the boundary between learning and working* (pp. 211–230). Dordrecht, The Netherlands: Springer.

Cooke, M., Irby, D., & O'Brien, B. C. (2010). *Educating physicians: A call for reform of medical school and residency*. Washington: The Carnegie Foundation for the Advancement of Teaching.

Cooper, L., Orrel, J., & Bowden, M. (2010). *Work-integrated learning: A guide to effective practice*. London: Routledge.

Dewey, J. (1916). *Democracy and education*. New York: The Free Press.

Donald, M. (1991). *Origins of the modern mind: Three stages in the evolution of culture and cognition*. Cambridge, MA: Harvard University Press.

Glaser, R. (1984). Education and thinking –The role of knowledge. *American Psychologist, 39*(2), 93–104.

Glaser, R. (1989). Expertise and learning: How do we think about instructional processes now that we have discovered knowledge structures? In D. Klahr & K. Kotovsky (Eds.), *Complex information processing: The impact of Herbert A. Simon* (pp. 289–317). Hillsdale, NJ: Erlbaum & Associates.

Grealish, L., Mitchell, M., Armit, L., van de Mortel, T., Shaw, J., Mitchell, C., et al. (2018). Using learning circles to develop intersubjectivity. In S. Billett, J. Newton, G. D. Rogers, & W. Nijhof (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Greeno, J. G., & Simon, H. A. (1988). Problem solving and reasoning. In R. C. Aitkinson, R. J. Hormiston, G. Findeyez, & R. D. Yulle (Eds.), *Steven's handbook of experimental psychology and education* (Vol. 2, pp. 589–672). New York: Wiley.

Groen, G. J., & Patel, P. (1988). The relationship between comprehension and reasoning in medical expertise. In M. T. H. Chi, R. Glaser, & R. Farr (Eds.), *The nature of expertise* (pp. 287–310). New York: Erlbaum.

Harrison, J., Molloy, E., Bearman, M., Ting, C. Y., & Leech, M. (2018). Clinician Peer Exchange Groups (C-PEGs): Augmenting medical students' learning on clinical placement. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Kirwan, G., Tuttle, N., Weeks, B., & Laakso, L. (2018). Post-practicum strategies to translate clinical experience to attributes of employability: Responding to graduate selection criteria. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care*

*students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Levett-Jones, T., Cortney-Pratt, H., & Govind, N. (2018). Implementation and evaluation of the post-practicum clinical reasoning exam. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Malle, B. F., Moses, L. J., & Baldwin, D. A. (2001). Introduction: The significance of intentionality. In B. F. Malle, L. J. Moses, & D. A. Baldwin (Eds.), *Intentions and intentionality: Foundations of social cognition* (pp. 1–26). Cambridge, MA: MIT Press.

Marsh, C. J. (2004). *Key concepts for understanding curriculum*. London: RoutledgeFalmer.

Meijers, F., Lengelle, R., Winters, A., & Kuijpers, M. (2017). A dialogue worth having: Vocational competence, career identity and a learning environment for 21st century success at work. In E. De Bruijn, S. Billett, & J. Onstenk (Eds.), *Enhancing teaching and learning in the Dutch vocational education system: Reforms enacted* (pp. 139–155). Dordrecht, The Netherlands: Springer.

Mezirow, J. (1981). A critical theory of adult learning and education. *Adult Education, 32*(1), 3–24.

Newton, J. (2011). Reflective learning groups for student nurses. In S. Billett & A. Henderson (Eds.), *Developing learning professionals: Integrating experiences in university and practice settings* (pp. 119–130). Dordrecht, The Netherlands: Springer.

Newton, J., Billett, S., Jolly, B., & Ockerby, C. (2009). Lost in translation: Barriers to learning in health professional clinical education. *Learning in Health and Social Care, 8*(4), 315–327.

Newton, J., & Butler, A. E. (2018). Facilitating students' reflections on community practice: A new approach. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Newton, J., Kelly, C., Kremser, K., Jolly, B., & Billett, S. (2009). The motivations to nurse: An exploration of factors amongst undergraduate students, registered nurses and nurse managers. *Journal of Nursing Management, 17*(3), 392–400.

Noble, C., Armit, L., Collier, L., Sly, C., Hilder, J., & Molloy, E. (2018). Enhancing feedback literacy in the workplace: A learner-centred approach. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Organisation for Economic Co-operation and Development. (2013). *OECD skills outlook 2013: First results from the survey of adult skills*. Paris: OECD.

Patrick, C.-J., Peach, D., Pocknee, C., Webb, F., Fletcher, M., & Pretto, G. (2008). *The WIL (Work-integrated Learning) report: A national scoping study.* Retrieved from www.olt.gov.au/resource-wil-work-integrated-learning-griffith-2009

Perkins, D., Jay, E., & Tishman, S. (1993). Beyond abilities: A dispositional theory of thinking. *Merrill-Palmer Quarterly, 39*(1), 1–21.

Richards, J., Sweet, L., & Billett, S. (2013). Preparing medical students as agentic learners through enhancing student engagement in clinical education. *Asia-Pacific Journal of Cooperative Education, 14*(4), 251–263.

Rogers, G. D., Parker-Tomlin, M., Clanchy, K., & Townshend, J. (2018). Utilising a post-placement critical assessment task to consolidate interprofessional learning. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Ryle, G. (1949). *The concept of mind*. London: Hutchinson University Library.

Schuller, T., & Watson, D. (2009). *Learning through life: Inquiry into the future of lifelong learning*. Retrieved from www.learningandwork.org.uk.gridhosted.co.uk

Scribner, S. (1984). Studying working intelligence. In B. Rogoff & J. Lave (Eds.), *Everyday cognition: Its development in social context* (pp. 9–40). Cambridge, MA: Harvard University Press.

Scribner, S. (1985). Vygostky's use of history. In J. V. Wertsch (Ed.), *Culture, communication and cognition: Vygotskian perspectives* (pp. 119–145). Cambridge, UK: Cambridge University Press.

Searle, J. R. (1995). *The construction of social reality*. London: Penguin.

Shuell, T. J. (1990). Phases of meaningful learning. *Review of Educational Research, 60*(4), 531–547.

Smith, M., Brooks, S., Lichtenberg, A., McIlveen, P., Torjul, P., & Tyler, J. (2009). *Career development learning: Maximising the contribution of work-integrated learning to the student experience*. Retrieved from https://eprints.usq.edu.au/5401

Steketee, C., Keane, N., & Gardiner, K. (2018). Consolidating clinical learning through post-rotation small group activities. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Sun, R., Merrill, E., & Peterson, T. (2001). From implicit skills to explicit knowledge: A bottom-up model of skill development. *Cognitive Science, 25*, 203–244.

Sweet, L., & Bass, J. (2018). The continuity of care experience and reflective writing: Enhancing post-practicum learning for midwifery students. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Tobias, S. (1993). *Interest and prior knowledge.* Paper presented at the American Educational Research Association, Atlanta, Georgia.

Valsiner, J. (1998). *The guided mind: A sociogenetic approach to personality*. Cambridge, MA: Harvard University Press.

Williams, L., Ross, L., Mitchell, L., & Markwell, K. (2018). Using students' placement experiences to enrich understandings of distinct kinds of nutrition and dietetics practice. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

# Chapter 2
# Sharing Stories and Building Resilience: Student Preferences and Processes of Post-practicum Interventions


**Melissa Cain, Anh Hai Le, and Stephen Billett**

## 2.1 Post-practicum Interventions: Student Preferences

To prepare occupationally informed and work-ready graduates, the Australian higher education sector has increasingly incorporated work-integrated learning (WIL) components into degree courses. These components can take many forms such as practicums, clinical experiences, and internships. They play an essential role in bridging the content studied at universities and professional social practice experienced in the workplace. With reference to the healthcare sector, Courtney-Pratt et al. (2012) describe the significance of clinical placements as being "undisputed as a key to professional competence" (p. 1381). It is understood, however, that the provision of these experiences alone will be insufficient to realise their full educational potential. Indeed, in enacting the provision of those experiences, the deliberate process of securing the integration of these two sets of experiences and students' reconciliation of them requires particular actions and engagement by learners (Billett, 2009). As a consequence, attention is now being given to the kinds of curriculum and pedagogical considerations required to secure that integration and realise the full benefits of these experiences. There are good reasons to want to realise those benefits, because they come at considerable personal and institutional costs. In some instances, students are charged with finding and organising their own WIL placements. But, primarily, it is the higher education institutions that direct considerable resources, time, and funding towards sourcing and facilitating these experiences. Then, there are the contributions made by employers in terms of their time and resources in providing these experiences, and increasingly educational institutions are supporting and

M. Cain (✉)
Australian Catholic University, Queensland, Australia
e-mail: melissa.cain@acu.edu.au

A. H. Le · S. Billett
Griffith University, Mt Gravatt, QLD, Australia



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_2

sometimes paying for students' practicum experiences. Added to this is the considerable investment of students as they engage in these experiences and in doing so also commit considerable time and resources and often incur financial costs. Therefore, along with evaluating the effectiveness of experiences that workplace learning provides, it is also necessary to consider how interventions can best secure the integration of those experiences into the higher education curriculum and achieve strong student learning outcomes. The focus here is on how the educational potential of these experiences can be enriched through interventions after students have completed their work experiences: post-practicum experiences.

In the past, post-practicum reflective self-assessments have provided some insight into the usefulness of work placements. However, higher education students typically receive little guidance on undertaking reflective practice (Ryan & Ryan, 2013), with significant differences and variations in explicit teaching of reflective practice between disciplines and institutions. This type of self-assessment often ends up being descriptive, which, while useful in its own way, is insufficient to appraise the impact the placement has on learners and others (e.g. workplace) critically. Moreover, there exists little evidence in the literature about how post-practicum interventions can be guided to make the placement experience more potent and secure important associations between the worlds of study and work. Given that the focus here is on students' practicum experiences and how they experience and learn through them, it is particularly important to understand these phenomena from the perspective of the students. It is they who engage in these experiences, seek to reconcile what they encounter in the workplace with what they are seeking to learn through their university courses, and then apply that knowledge subsequently once employed beyond graduation. All too often, the student perspective is underplayed and undervalued. Education programmes and their attendant experiences are designed by taking into account a range of factors and, in this complex, a demanding process. Frequently, however, the perspectives of those who are to participate in and learn through them are not being gauged or used to inform what is being planned and enacted.

In an attempt to partially redress that circumstance and provide a basis to consider the provision of post-practicum experiences, this chapter reports on the preferences of 365 higher education students in Australia undertaking work placements in healthcare and social care disciplines. The students were respondents to a survey that elicited a range of data about them and how post-practicum interventions might best assist them to learn more about their prospective occupations. Having discussed the importance of post-practicum interventions, the design and administration of this survey is described, and then the findings are presented and discussed. The data presented illustrate these students' preferences for the types, forms, and timings of post-practicum interventions and their justifications for these choices. Like quantitative measures, qualitative data have been elicited and analysed. Perhaps most noteworthy, but in some ways not surprising, is a pattern of preferences for educational processes to be facilitated by teachers or experts over student-organised interventions. That is antithetical to educators' goals for their students to develop necessary skills in organising and directing their own processes of development, as will be required in practice, overexpressed guidance from and validation of their

learning by more informed others (i.e. clinicians and teachers). Hence, expectations that these processes would inevitably lead to students being self-directed or independent, as is often a stated goal, were inconsistent with student preferences. Variations in responses between discipline areas provide additional important information about how best to augment and support placement experiences. All of this is discussed below.

In making its case, the chapter progresses by first discussing the focus on post-practicum educational interventions. In doing so, it notes that the available literature provides little guidance in terms of the purposes of or the means of progressing with post-practicum interventions in higher education. The approach undertaken in conducting this survey and analysing the data is outlined followed by the presentation and discussion of that data, including some implications for planning and enacting post-practicum experiences within contemporary higher education.

## 2.2 Post-practicum Experiences

The importance of engaging educationally with students after their practicums has been recognised and addressed by studies indicating that, in particular, securing feedback from students, academics, and industry professionals provides useful kinds of interventions (Billet, Cain & Le, 2016; Maire, 2010). However, the advice about post-practicum interventions in current literature is quite limited. What is advanced in that literature can be categorised into two themes. Firstly, work placements are highly valued by students for linking occupational knowledge taught in education settings, with the requirements for practice, and also in assisting students to meet graduate outcomes and industry standards. This is often referred to as the overcoming the theory-practice divide. The concern addressed here is that each of these settings generates particular kinds of knowledge and the task is to bring them together in some way. An assumption here is that something called theory (i.e. facts, concepts, and propositions—what we know) is learnt in educational institutions and that something called practice (i.e. how to achieve goals—what we can do) is secured through workplace experiences. On its own terms, this issue stands as a goal to be addressed. Secondly, there are themes associated with reflection-in-action and reflection-on-action (Schön, 1983) by students in which workplace experiences serve as the vehicle for engagements with and decision-making about practice. These themes are aligned with the broad educational goals of i) the need to transform students' experiences into adaptable occupational knowledge; ii) reconciling and aligning that learning with students' educational programmes' objectives; and iii) sharing, comparing, and critically appraising those experiences, which initiate ways to redress difficult or confronting learning experiences and capitalise on their educational worth.

Several studies identified from higher education literature explicitly state the importance and identify value of students reflecting on their work experiences both during and after practicums and offer means for this to occur. Professional

development logs generated by engineering students while on work placements have been shown to be effective as an assessment tool (Doel, 2008). In this case, students were provided with purposeful scaffolding through a 2-day workshop prior to their placements. Feedback on the effectiveness of logs was secured through surveys and focus groups and furnished evidence that this approach encourages students to analyse incidents at a deeper level, rather than just describing what had occurred. Post-practicum feedback from healthcare students undertaking learning circles and reflection tasks has also been found to provide a focus for students to appraise how their clinical experiences contribute to their occupational socialisation and identity formation (Coward, 2011; Walker, Cooke, Henderson, & Creedy, 2013). Through evaluating experiences by generating individual journal entries and peer debriefing sessions, it has been shown that students can identify key learning outcomes from their clinical experiences, and clinical educators can utilise this feedback to provide more effective learning experiences (Stockhausen, 2005). Such appraisals are seen as critical to professional development and learning as carefully structured educational tasks can assist students to identify links between propositional knowledge (i.e. facts, concepts, and propositions) and the requirements for and actualities of practice and reveal and address other issues that concern or challenge them (Dean & Clements, 2010).

For these interventions to be effective, the structure and facilitation of such appraisals must be carefully aligned with course learning outcomes and assessment items. For instance, commerce students were required to make daily *eLogs* as a means of appraising key areas of their placements but viewed this task as irrelevant or a waste of time, as these entries lacked alignment with assessment tasks (Dean, Sykes, Agostino, & Clements, 2012). A structured approach was also recommended for the kinds of reflective practice being undertaken by Swedish nursing students to make appraisals about the effectiveness of the clinical placement model (i.e. theoretical basis, purpose, structure, and design) (Lindgren, Brulin, Holmlund, & Athlin, 2005). A focus on students developing critical thinking skills to gain a deeper awareness of self and others by reflecting on specific incidences encountered in their practicums was aimed to be realised through this kind of structuring. This practice is held to be analogous to clinical supervision processes and group supervision, and reflection also serves to support students' learning during their placements. Post-placement feedback from students and industry partners is also highlighted as providing a means through which to refine courses in rapidly changing areas such as information technology (Holt, Mackay & Smith, 2004). Structured and directed efforts press students to appraise what they have experienced actively, and when those efforts are directed to achieving identified outcomes, they offer the potential to be effective in achieving a range of associated educational outcomes.

Elsewhere, findings from case studies (Macleod et al., 2011) led to interventions such as the development of models for effective practice and working towards providing more effective experiences for international students. The process and outcomes of four post-work placement seminars for chiropractic students completing a voluntary placement in Siliguri, India, provide one example (Maire, 2010). In these seminars, students shared experiences of different practices encountered while on placement. They made explicit links between their experiences and what was taught

in classes and challenged other students to think critically about orthodox chiropractic practices in diverse settings. In another example, the potential impact of reflective practice as post-practicum experiences was highlighted by student contributions to a clinical legal education programme (Curran, 2004). Through engaging in "debriefing" sessions, students considered and appraised their learning experiences during weekly placements within disadvantaged communities. As a result, student-initiated law reform resulted in a positive change in these communities and also directly impacted future placement experiences. Similarly, the dimensions of student workplace learning in journalism internships were discussed (Forde & Meadows, 2011). Feedback from post-placement sessions, individual interviews, and student focus groups contributed to evaluating the relevance of content and effectiveness of assessment and industry partners' perspectives about these internships. This prompted refinements to the current internship model. These examples highlight the use of interventions before, during, and after practice-based experiences, as "workplace variability" (i.e. vastly different individual experiences in similar placements) was evident in student feedback and which influenced the enactment of the intended curriculum (i.e. what was supposed to occur), design, and the kinds of pedagogic practices that can and might be selected to be utilised (Billett, 2015).

Post-practicum experiences have also been shown to address shortcomings of experiences in practice settings, including the opportunity for students to share, reflect upon, and critically appraise their experiences, as being central to developing students' occupational capacities. This prompted recommendations for future intervention strategies including peer mentoring, peer teaching to assist the development of clinical reasoning skills, and critical reflection (Levett-Jones, Gersbach, Arthur & Roche, 2011; Nash 2012). The experiences of dentistry students reveal a need for a stronger focus on outcome-based programming within work placements in which all stakeholders have clear understandings about what is aimed to be achieved through practicum experiences (Owen & Stupans, 2008). This study led to recommendations about the development of a national repository of experiential placement learning and assessment tasks, standardised developmental descriptors related to competencies at several levels, and the listing of benefits of collaborative engagement to identify quality placement success indicators (Owen & Stupans, 2008). Research within nursing revealed a need for further consultation and better communication with universities regarding the allocation of student placements, as poor organisation and communication between universities and clinical facilities was found greatly to impact the success of placements, which can be addressed through the provision of post-practicum experiences (Peters, Halcomb, & McInnes, 2013). This study also identified that, although students had completed prerequisite studies prior to their placements, they were still sometimes unable to connect the knowledge they learnt in educational institutions with the requirements to practice and were inadequately prepared for the practical component of their placements.

Specific post-practicum feedback reported in the literature has also been used to identify specific issues for educational interventions. As work-integrated learning experiences are situationally, socially, and culturally embedded, accounts that evidenced and illuminated dissonance or "culture shock" for both domestic and inter-

national students in some workplace settings were important (Macleod et al., 2011). Students reported experiencing situations in which their cultural mores were confronted inducing stress and anxiety, which could have been addressed or at least reconciled through preparatory processes and also post-practicum interventions. A project on health ethics education presents an account of the challenges for students to address ethical issues associated with culturally divergent approaches, beliefs, and values (Fuscaldo, 2013). Case studies demonstrate how ethical principles, as taught in university courses, may clash with the cultural and religious values of patients and their families. Here, post-placement engagements emphasised that Western health ethics are not (always) cross-culturally applicable and that students need decision-making capacities to assist them to adapt ethical principles to specific cultural contexts. Hence, post-practicum interventions can be used to mediate personal experiences to develop these kinds of capacities. The outcomes of these activities all suggest that post-practicum seminars of some kinds offer a means to promote greater and more focused integration of experiences in educational and workplace settings and to generate effective and critical learning experiences for higher education students.

In sum, while these accounts are helpful and informative about the potential utility of post-practicum interventions, the literature focussing specifically on those interventions is limited in quantum and scope. What it emphasises is the salience of having post-practicum interventions variously to support and extend the learning from workplace experience, address limitations of those experiences, and respond to secure greater educational worth, such as making explicit links to what is being taught in students' courses and even critiquing the approach taken. Mentioned frequently were appraising and comparing experiences of occupational practice, peer-based discussion, and the use of logs. Strategies such as debriefs and feedback are also featured in this literature. What is noteworthy is that many of the issues identified in the students' survey data (see below) were not addressed in this literature thereby highlighting the limits of its scope and, therefore, its contributions. With the exception of Forde and Meadows (2011) and Maire (2010), there was an absence of accounts of post-practicum classroom-based activities. That is, the array of potential classroom-based activities was largely absent in the studies reported in that literature. In particular these studies provide evidence of post-practicum interventions' importance, yet only hint at how they might be made effective, and say little about how students might want and need to engage with these interventions.

Consequently, the findings of the survey reported below, which identify students' preferences for the purpose and enactment of those interventions, stand to provide insights that are not currently available in the literature.

## 2.3 Approach

The approach adopted for the study was to undertake a survey of healthcare students who had already engaged in practicums and, as such, were informed about these experiences. The survey items were developed through a process of collegiate

engagement with participants who teach in university programmes and are represented in this volume and through trialling them with a small cohort of students. Through this process, the survey instrument was revised and refined and then ultimately administered across a range of higher education institutions.

### *2.3.1 Survey*

The survey instrument comprises three sections. The first section captures demographic information about participants, their gender, age groupings, the disciplines in which they are enrolled, level of study, and current year of study. The second section consists of 11 items measuring levels of interests on the educational purposes of intervention on a 5-point Likert scale, ranging from 1 (*very interested*) to 5 (*irrelevant*). The reliability result with Cronbach's alpha of 0.925 suggested very high consistency of responses across items. The third section comprises three subsections associated with (i) suggestions for timing of interventions, (ii) identifying the preferences for 16 different interventions on a 5-point Likert scale ranging from 1 (*high preference*) to 5 (*would not participate*), and (iii) ranking the importance of intervention features via 14 items ranging from 1 (*essential*) to 5 (*irrelevant*). In both sections, participants were given the opportunity to further comment on the sets of intervention-related items.

### *2.3.2 Procedures*

The survey described and reported here is an element of a larger project that aimed to understand how best to augment higher education students' experiences in workplace settings. This was achieved through subprojects identifying, trialling, and evaluating a range of educational interventions (i.e. teaching and learning strategies) that were implemented after students completed their practicums across different settings within the healthcare sector. The survey instrument, as noted, was developed initially with suggestions from the project team members identifying sets of items, including a range of educational purposes, important features of such interventions, and the processes that might be enacted through these interventions. These sets of items were piloted with a small group of students and refinements undertaken to improve the comprehension of these items. The survey was administered online to students across six Australian universities. Students were invited to participate via email invitations with the embedded link to the survey. Descriptive analyses were conducted with the collected data using SPSS version 24. In addition to the quantitative data, qualitative inquiry allowed for in-depth exploration of perceptions and a fuller understanding of students' lived experiences on their practicums. Qualitative statements were analysed and summarised manually with trends and common themes colour-coded. In this way, the qualitative data add nuances to the patterns proposed through the quantitative analysis analyses of the survey data.

**Table 2.1** Demographic background of the respondents

| Variables | Values | N | % |
|---|---|---|---|
| Gender | Female | 288 | 81.4 |
| | Male | 66 | 18.6 |
| Age | 15–19 | 19 | 5.4 |
| | 20–29 | 206 | 58.4 |
| | 30–39 | 70 | 19.8 |
| | 40 and over | 58 | 16.4 |
| Disciplines | Nursing | 157 | 44.1 |
| | Medicine | 109 | 30.6 |
| | Midwifery | 38 | 10.7 |
| | Allied health | 52 | 14.6 |

### *2.3.3 Respondents*

As shown in Table 2.1, the respondents were overwhelmingly female (81.4%). While they represented a range of healthcare disciplines, predominantly they were from nursing (44%), followed by medicine (29.6%), midwifery (10.3%), and various allied health disciplines (16.1%) such as dietetics, physiotherapy, pharmacy, occupational therapy, speech pathology, and exercise science. Such gender distribution represents the overall healthcare workforce (Workplace Gender Equality Agency, 2018) but is under-represented of the gender distribution across Australian higher education.

The findings are presented below beginning with a discussion of results relating to responses from the cohort as a whole using frequencies. The representation of the respondents of the cohort falls under four disciplinary categories: nursing, midwifery, medicine, and allied health. The data from these groups of respondents were then accessed using chi-squared statistics, thus allowing a comparison of response patterns between these respondent groups.

## 2.4 Student Preferences for Post-practicum Interventions

The findings described and discussed here are those associated with (i) educational purposes, (ii) important features of post-practicum interventions, and (iii) timing and process of post-practicum interventions.

### *2.4.1 Educational Purposes*

The respondents were asked to indicate their preferred educational purposes for participating in post-practicum interventions from a list provided in the survey. This list of purposes had been generated by a series of discussions by members of a large

**Table 2.2** *Results of responses to preferences for educational purposes of post-practicum interventions*

| Educational purposes | n | % of responses | | | |
|---|---|---|---|---|---|
| | | VI | SI | I | Aggregated total |
| Make informed choices about career, work options, or specialisations | 348 | 52.6 | 26.7 | 15.5 | 94.8 |
| Linking what is taught at university to practice | 348 | 47.7 | 31.3 | 15.8 | 94.8 |
| Improve the experience for the next cohort of students undertaking practicum in that venue | 344 | 42.4 | 32.8 | 19.5 | 94.7 |
| Identify how these experiences can make you more employable | 348 | 50.0 | 28.7 | 15.8 | 94.5 |
| Learn how your preferred occupation is practised in across different work settings | 346 | 45.7 | 30.1 | 18.2 | 94.0 |
| Learn more about your preferred occupation | 349 | 49.0 | 27.5 | 17.2 | 93.7 |
| Secure feedback on your workplace experience | 346 | 49.4 | 28.2 | 15.6 | 93.2 |
| Discuss experiences during placement you found worthwhile/interesting/confronting | 346 | 38.4 | 30.9 | 23.7 | 93.0 |
| Linking your work experiences with course work and assessments | 349 | 41.8 | 32.7 | 17.8 | 92.3 |
| Learn about other students' experiences during their practicum | 348 | 29.6 | 31.9 | 29.3 | 90.8 |
| Make choices about selection of subsequent courses/majors | 343 | 38.8 | 30.3 | 19.2 | 88.3 |

*Note*: *VI* very Interested, *SI* some interest, *I* interest

national teaching grant focused on the provisions of post-practicum experiences (Billett et al., 2016). This list was generated, circulated, and refined through discussion and then as part of the trialling process. Table 2.2 presents the frequencies of responses in percentages arranged hierarchically on the basis of the aggregated responses. The preferred purposes were aggregated from the frequency of responses to the three measures of interest (i.e. *very interested*, *some interest*, and *interest*). These three measures are used here as indications of trends or patterns within the overall data. In the left column of Table 2.2 is the ordering of the purposes on the basis of frequency by which informants classified them as being *very interested.* In the column to its right are the numbers of informants, first, and then the three measures of interest. In the right-hand column is the aggregated total of these three measures. The two categories (*not interested* and *not applicable)* not included in this table can be seen to constitute between 5% and 12% of the total participants.

The most frequently preferred purposes were associated with being informed about career choices including specialisations (94.8%), linking theory to practice (94.8%), improving the experience for the next student cohort (94.7%), and identifying experiences leading to employability (94.5%). Other purposes receiving strong focus of interest include learning about preferred occupations (93.7%) and how this is practised within different settings (94%) and securing feedback on individual performance (93.2%). The reported preferences are not surprising and

aligned with the rationale of having practice-based experiences included in higher education courses. That is, they were judged to provide experiences that prepare students for a smooth transition to productive employment in workplaces and developing applicable capacities that cannot be learnt through experiences solely confined to educational settings. Thus, the overall preferences were associated with enhancing students' understanding about their selected occupation, their successful engagement with it during practicums, and how they are individually progressing towards being prepared to be effective in professional practice and its relation to fulfilling the requirements for the successful completion of their university courses.

When examining the responses from perspectives of respondents from different disciplinary categories, significant differences were observed on all 11 items relating to educational purposes of post-practicum interventions. An interesting pattern was associated with the nursing and the midwifery groups generally indicating very high level of preference (*very interested* option) for most purposes in comparison to the medicine and the allied health cohorts. Table 2.3 selectively presents some sampled items for discussion of different response patterns amongst the sub-cohorts. Like Table 2.2, it presents the frequencies of responses in percentages arranged hierarchically on the basis of the aggregated responses. However, some statistical measures are also included here to demonstrate the significance.

As shown in Table 2.3, significant difference was found on item 2 ($\chi^2$= 54.51, $df$ = 12, $N$ = 348, $p < 0.001$). Most of the nursing (58.8%) and midwifery (55.3%) respondents indicated that they were *very interested* in the purpose of linking theory to practice. Medicine (38.3%) and allied health (28%) showed lower levels of similar sentiments. Similarly, significant difference was observed on item 8 ($\chi^2$= 45.51, $df$ = 12, $N$ = 348, $p < 0.001$) indicating that although the majority of the nursing (64.5%) and midwifery (52.6%) students indicated their preference for purposes relating to identifying experiences leading to employability, a lower level of interest was indicated by the medicine sub-cohort (29.9%). Learning about preferred occupations received very high levels of interest from 62.1% of the nursing students and 50% of the midwifery students yet was only of high level of interest with 34.6% of the medicine respondents. The same pattern was found on item 6, securing feedback on individual performance, between the nursing (65.8%) and midwifery (50%) and the medicine (34.9%) and allied health (30%) groups. These findings showed that there were distinct patterns of preferences amongst respondents from different health disciplines with those from nursing and midwifery giving stronger indication of their preferred purposes when compared to the medicine and allied health sub-cohorts.

In addition to the set of predetermined purposes, the respondents were given the opportunity to express their opinions on the primary purposes for post-practicum interventions. The most common responses reported by this cohort comprised of the following: to align university studies, theory, and academic literature with what they had experienced in practice; to debrief or discuss specific or unusual incidences that happened on placement; and to share and learn from a collective range of experiences.

**Table 2.3** *Results of responses to preferences for educational purposes by field of study*

| Educational purposes | Field of study | n | % of responses | | | $\chi^2_{12}$ | $p$ |
|---|---|---|---|---|---|---|---|
| | | | VI | SI | I | | |
| Linking what is taught at university to practice | Nursing | 153 | 58.8 | 26.8 | 13.1 | 54.51 | 0.000*** |
| | Midwifery | 38 | 55.3 | 31.6 | 10.5 | | |
| | Medicine | 107 | 38.3 | 39.3 | 18.7 | | |
| | Allied health | 50 | 28.0 | 28.0 | 22.0 | | |
| Identify how these experiences can make you more employable | Nursing | 152 | 64.5 | 22.4 | 10.5 | 45.51 | 0.000*** |
| | Midwifery | 38 | 52.6 | 34.2 | 7.9 | | |
| | Medicine | 107 | 29.9 | 41.1 | 23.4 | | |
| | Allied health | 51 | 47.1 | 17.6 | 21.6 | | |
| Secure feedback on your workplace experience | Nursing | 152 | 65.8 | 19.1 | 11.8 | 46.18 | 0.000*** |
| | Midwifery | 38 | 50.0 | 39.5 | 7.9 | | |
| | Medicine | 106 | 34.9 | 39.6 | 18.9 | | |
| | Allied health | 50 | 30.0 | 30.0 | 26.0 | | |

*Note*: *VI* very interested, *SI* some interest, *I* interest, *** denotes $p < 0.001$

#### 2.4.1.1 Nursing

Nursing students reported post-practicum sessions as a means to discuss the "good and bad" aspects of placements and respond to suggestions for improvement. Interventions would "provide a safe space to talk about concerns, share positive experiences, and consolidate learning". The respondents indicated that they valued the advice and perspectives of their tutors and peers and saw such interventions as rich opportunities to "problem solve, challenge current beliefs, debate, and question our practice". Respondents recognised that their placements could not provide exposure to all clinical situations; therefore, they demonstrated interest in learning from other students whose experiences differed to their own. Nursing students wanted to compare and contrast their experiences with those of their peers, to get an idea whether theirs was a typical placement and whether they responded to clinical scenarios in alignment with their cohort (cf Peters et al., 2013). It was important for these students to critically appraise whether they were adequately prepared for placement and learn more about expected professional conduct. Some of the nursing students stated they would like to "develop skills to cope with challenging situations" and alleviate fears about encountering "negative workplace culture" such as instances of bullying and being treated with lack of respect. Others viewed the purpose of post-practicum interventions as a conduit between the clinical placements and academic life. They expressed a need for assistance to "get back into the swing of university life" and prepare for upcoming assessments after placements. The perceived purpose of these interventions was not only to benefit the current cohort but also to provide helpful feedback to the university, to improve on pre-practicum training, and to add value to future placement experiences for all students. In this way, the qualitative data add nuances to the patterns proposed through the quantitative analysis analyses of the survey data.

#### 2.4.1.2 Medicine

The main purpose that medical students identified was to "consolidate knowledge and engage with peers and teachers". Debriefing on particular clinical events and the way these were managed on placement was advanced as an important theme. Respondents want to link theory with "real-life" events, increase their overall skills base, and receive feedback from knowledgeable others on their performance. Medical students also saw interventions as a time to share "interesting cases" that not everyone would have experienced while on placement and as a general opportunity to learn from their peers. Medical students were keen to "provide tips to the next batch of students" and "recommend improvements for subsequent rotations" for the benefit of future students in general. As with the nursing students, discussing ways to cope with negative aspects of hospital work culture—described by one respondent as "callous"—was a priority. The medical students reported valuing opportunities to compare the quality of their experiences and whether they were receiving "optimal placement experiences". Unpacking specific clinical situations

and brainstorming appropriate responses were also mentioned as purposes for post-practicum interventions. So, although the medical students had not indicated as higher level of the need to engage in these activities, they also identified some practices that they saw as central to learning about and working effectively in healthcare settings.

#### 2.4.1.3 Midwifery

Midwifery students indicated that the main purposes of post-practicum interventions were to discuss general experiences and debrief on "complex conditions, disappointments, and successes" in the workplace. Contrastingly, midwifery students placed significant emphasis on establishing support networks and "learning to build emotional resilience" to cope with the stresses of placements. Some respondents suggested that no other health trainees "have such intensive, demanding, and requiring-of-sacrifice placement expectations" and that the expectations on placement are "disproportionate to what is required in the workforce", thus the need for structured support systems. In this way, these data indicate that while these students see value in post-practicum experiences, they expressed concerns at the demanding and burdensome qualities of the continuity of care experiences that they saw as incommensurate to the learning required and what others, including doctors, were requested to fulfil.

#### 2.4.1.4 Allied Health

Respondents from allied health disciplines reported that the main purpose of post-practicum interventions was "to discuss key things learnt on placement and experience from past students", to "learn about a range of placements from different sectors", and "to share difficult and enjoyable experiences". These responses suggest that they came close to what was being anticipated in the post-practicum project, that is, to use these experiences as platforms for sharing experiences and discussing outcomes of practicum placements. One respondent concluded that a suitable purpose would be to create an environment where students could relax and learn relaxation techniques in response to stressful practicum outcomes. Interestingly, while the informants of allied health disciplines such as physiotherapy, speech pathology, and occupational therapy expressed their interest in sharing and hearing from others the experiences during placements as well as reflections on practice, those from dietetics were more concerned about enhancing employment skills as an educational purpose of post-practicum interventions. These dietetic informants called for particular activities during post-practicum interventions such as "resume writing and applying for jobs", "CV preparation", "assist students in getting jobs", or "debrief with other students regarding job applications and future plans". Again, these students bring perspectives that are distinct from counterparts in other disciplines.

The above analysis indicates some different response patterns across disciplines regarding preferences for educational purposes of post-practicum interventions, with the nursing student cohort being more certain and clearer about the preferred purposes as compared to the medicine and allied health groups. Nursing and midwifery students focused on comparing and contrasting experiences with their peers and developing coping strategies for difficult clinical situations, while medical students preferred sessions to focus on increasing their skills base by interacting with lecturers and supervisors. Some analysis was also undertaken across different age groupings. However, this did not reveal any significant differences in the patterning of student responses. It was anticipated that there might be some difference given that often in healthcare disciplines, especially in nursing education programmes, students have quite different backgrounds, with some entering their studies directly from school and others already having workplace experience as enrolled nurses (who provide nursing care under the supervision of a registered nurse), and that about one third of entrants to medical programmes have previously been trained in other health professions.

Overall, the data suggest that the respondents are keen to use post-practicum activities to share practicum experiences and discuss these outcomes to understand more about their occupations and how they can use these experiences to inform actions to progress towards employability. This finding is consistent with Stockhausen's (2005) observations on the importance of assisting students to develop a professional identity and contribute to their occupational socialisation and also Maire (2010) whose work highlights the value of sharing experiences.

### *2.4.2 Important Features of Post-practicum Interventions*

The respondents were also asked to indicate their preferences amongst a listing of possible features of post-practicum experiences. The students' preferences associated with these features were aggregated from responses to the three levels of importance, i.e. *essential*, *very important*, and *important*. Table 2.4 presents these data. In the left column is the listing of these features of post-practicum interventions. The responses are ordered hierarchically against the aggregated total in the right-hand column. In the column to its right is the number of respondents across these three categories and then the frequencies of responses captured as percentages that are arranged hierarchically on the basis of the aggregated responses.

The most frequently preferred outcomes reported were (i) the development of capacities for coping in the workplace (95.4%), (ii) the engagement with peers at similar stages of their programme (94.2%), (iii) the opportunity to provide feedback to the practicum site with regard to the provided experiences (94%), (iv) the development of coping skills for the workforce (93.4%), and (v) being focused on work activities of selected occupation (92.4%). So, the desired features of the post-practicum experiences are directed to quite pragmatic goals in terms of realising effective learning outcomes from workplace experiences, subsequently informing

**Table 2.4** Responses to the importance of listed features of post-practicum interventions

| Features of interventions | n | % of responses | | | |
|---|---|---|---|---|---|
| | | E | VI | I | Aggregated total |
| Development of coping skills for the workplace | 333 | 37.2 | 35.4 | 22.8 | 95.4 |
| Engaging with students at similar stages in the programme | 332 | 27.4 | 32.5 | 34.3 | 94.2 |
| Opportunity to provide feedback to the practicum site about student experiences | 335 | 34.6 | 34.6 | 24.8 | 94.0 |
| Development of coping skills for the workforce | 334 | 45.5 | 30.5 | 17.4 | 93.4 |
| Focussed on work activities of selected occupation | 332 | 32.2 | 33.1 | 27.1 | 92.4 |
| Focused on course content | 336 | 32.7 | 31.5 | 26.2 | 90.4 |
| Opportunity to share and discuss with peers | 330 | 24.5 | 27.9 | 37.9 | 90.3 |
| Engaging as many students' perspectives as possible | 330 | 22.7 | 30.9 | 34.2 | 87.8 |
| Opportunity to share and engage in structured consideration of experiences | 329 | 20.7 | 30.4 | 36.5 | 87.6 |
| Linked to assessment items | 338 | 31.7 | 31.1 | 21.6 | 84.4 |
| Engaging with students at different stages in the programme | 329 | 14.9 | 28.6 | 32.2 | 75.7 |
| Teacher-led and implemented | 332 | 20.8 | 28.0 | 42.2 | 70.2 |
| Student-led and implemented | 330 | 10.6 | 18.5 | 37.0 | 66.1 |
| Engaging with students from other disciplines | 332 | 8.1 | 16.6 | 24.7 | 49.4 |

*Note*: *E* essential, *VI* very important, *I* important

practitioners of the provided experiences for improvement. These preferences are well aligned with the anticipated outcomes for student practicum experiences and are consonant with the findings associated with concerns and emphasis on receiving feedback on individual progress and performance (Dean & Clements, 2010). They also align with findings by Stockhausen (2005) where students in healthcare disciplines see debriefing opportunities as assisting with developing a sense of professional identity and increasing personal resilience. These sources of data can inform the development of various types of post-practicum intervention activities and the way in which they are conducted so as to focus on these themes.

An analysis of the response patterns amongst the four sub-cohort of students indicates that significant differences between disciplinary categories were observed on 8 (out of 14) items. A closer examination of the response patterns indicated a clear significant difference in preferences between the nursing and the medicine sub-cohorts with respect to items 7, 10, and 14. Table 2.5 selectively presents some sampled items for discussion of different response patterns amongst the sub-cohorts. In this table, the left-hand column offers these preferred features of post-practicum interventions, and the next column indicates the responses within the sub-cohorts. To the right are a number of respondents to each of those sub-cohorts and then their preferences. In the two right-hand columns are provided indications of significance.

**Table 2.5** Responses to the importance of intervention features by field of study

| Features of intervention | Field of study | n | % of responses | | | $\chi^2_{12}$ | $p$ |
|---|---|---|---|---|---|---|---|
| | | | VI | SI | I | | |
| Engaging with students at similar stages in the programme | Nursing | 141 | 37.6 | 29.8 | 29.8 | 24.52 | 0.017* |
| | Midwifery | 36 | 25.0 | 33.3 | 36.1 | | |
| | Medicine | 106 | 17.9 | 36.8 | 39.6 | | |
| | Allied health | 49 | 20.4 | 30.6 | 34.7 | | |
| Opportunity to share and discuss with peers | Nursing | 140 | 33.6 | 27.9 | 32.1 | 30.46 | 0.002** |
| | Midwifery | 36 | 33.3 | 33.3 | 22.2 | | |
| | Medicine | 105 | 9.5 | 29.5 | 50.5 | | |
| | Allied health | 49 | 24.5 | 20.4 | 38.8 | | |
| Development of coping skills for the workforce | Nursing | 144 | 58.3 | 26.4 | 13.9 | 35.73 | 0.000*** |
| | Midwifery | 35 | 40.0 | 37.1 | 17.1 | | |
| | Medicine | 106 | 34.0 | 34.0 | 23.6 | | |
| | Allied health | 49 | 36.7 | 30.6 | 14.3 | | |

*Note*: *VI* very interested, *SI* some interest, I interest, * denotes $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Specifically, whereas 37.6% of the nursing students reported the engagement with peers at similar stages in their course of study as a "very important" feature of post-practicum experience, only 17.9% of the medicine students indicated this preference. Similarly, while 33.6% of the nursing respondents highlighted the very important feature of the opportunity to share and discuss with peers as part of their post-practicum experience, only 9.5% of the medicine sub-cohorts expressed similar sentiment. With respect to the development of coping skills for the workforce, a majority of the nursing sub-cohort (58.3%) considered this as essential as compared to 34% of the medicine indicating similar view. So, for reasons not fully explained within the survey data, there are distinct preferences amongst the sub-cohorts. This may be related to key differences between medical and nursing educational practices.

The survey instrument also provides an opportunity for respondents to provide qualitative responses about why they believed it was important they be offered these kinds of experiences after their practicums. Overwhelmingly, students from all of the sub-cohorts reported value in learning about their peers' experiences in a range of clinical contexts and viewed these opportunities as a means to consolidate and supplement their own knowledge and skill set. One respondent stated that these activities helped to "fill gaps—as not everything is explored in labs, and this adds real world perspective". Another agreed: "[you can] hear about different areas you may not have experienced and hear about experiences you may not have had. This is essential as everyone's experience is different". Students might be introduced to areas of the profession they may "not yet have considered that may be of interest" providing good opportunities "to share experiences to broaden [the] knowledge base". In this way, while there were different levels of interest across the sub-cohorts consistently, there was a common appreciation of the potential of these experiences to promote their learning through and from others' practicum experiences. There were, however, differences in the detailing of that potential across these sub-cohorts.

#### 2.4.2.1 Nursing

Nursing students reported post-practicum activities as being a helpful way to express their understanding of professional knowledge as experienced in their unique placement settings. As one student wrote: "I'm extremely happy [to go on placement] but also anxious and feel the post-practicum activities would help me to consolidate my practice/knowledge and help me to prepare for this next step". Sharing experiences would help some students decide if nursing is the right choice of profession and if they have the skills and attributes to realistically cope with the various clinical scenarios that may be encountered. Developing the skills of teamwork through post-practicum activities was also mentioned as an important outcome, with one respondent suggesting that these opportunities would "create unity in the profession" and provide much needed extra support. Other nursing respondents highlighted the importance of being able to debrief as:

> … cathartic and [to ensure that] there is communication between all bodies that facilitate learning … and a harmony between those who learn and those who teach.

Many of the nursing informants agreed that the time between practicums was too large to retain what was previously learnt and, therefore, interventions might assist to consolidate practicum experiences and link to the next placement. In this way, these nursing students were able to identify the efficacy of these experiences and the direct implications it had for their learning and development as nascent nurses. They also pointed out that, given nursing is often undertaken in teams, ways of working as nurses needed to be reflected in post-practicum types of debriefs. Indeed, much of professional practice has forms of intra- or interprofessional interaction as part of daily work activities. These students also suggested that the educational processes, including assessment, could be enhanced through the lessons learnt from post-practicum interventions.

#### 2.4.2.2 Medicine

Medical students also placed importance on the opportunity to share and debrief and, as a "coping mechanism for challenging scenarios/conflict/ethical dilemmas", to reduce anxiety about whether they were "on the right track" and whether they were being taught "the most relevant aspects of medicine". This was expressed in several comments such as "medical school is hard", "it can be lonely", and "we need to debrief and discuss". As mentioned earlier, of prime importance medical students reported the opportunities to advance the training programme and clinical experiences for future students and to "ensure suboptimal teaching experiences can be improved". Medical students also valued the opportunity to gain knowledge from other students who had different experiences from theirs. As one student expressed:

> On clinical placement as a medical student, you are often a lone wolf. There is often not a lot of interaction with colleagues and tutors in the later years and your learning relies on informal interaction with members of the treating team.

Post-practicum interventions were seen as an important avenue for support in reducing isolation, so that students could feel "that [they] are not alone in the journey". Knowing that they were on "an even footing" with their peers and were receiving the same quality of education was essential to medical students. The consequence here is that while referring to improving the educational experience the medical students also referred to the loneliness or isolation that can occur as a medical student working in a clinical setting. Again, this suggests that a particular focus is of concern for these students, which are less represented in other sub-cohorts.

#### 2.4.2.3 Midwifery

Midwifery students emphasised that opportunities to discuss placements were important "to change the way [practicums] are implemented". Like medical students, interventions were a valued way to compare experiences. This cohort wanted

to "see how other work places operate, adhere to protocol, and treat students". Opportunities to share information or advice "would reduce stress and fear levels", and "support from other students that have been through the experience would be invaluable". Midwifery students also reported valuing such activities as helping to "prepare future students for a smoother transition to practicums" and as a mental health support mechanism to "know that we are not alone in our experiences". External students who have few ways to engage with their cohort on this level have found these types of opportunities lacking. Linking theory and practice was noted as another area that could be enhanced by post-practicum interventions. As one respondent explained:

> … practicum and university study don't seem to link in very well. This means often we feel unprepared for practicum with the necessary background scientific knowledge …

Midwifery students also placed value on confirming "correct management of situations and identifying differences taught at university compared with in the clinical setting". As such, the midwifery students, who also often engage in work placements in relative social isolation, looked to post-practicum interventions as a means of overcoming the challenges they face in those circumstances and supporting their learning. Once again, the midwifery data are more closely aligned with the nursing data, in that these students seek and value support and advice from their peers. While medical students also valued this type of advice, they were more focused on obtaining support from their lecturers and clinical supervisors.

#### 2.4.2.4 Allied Health

Students in the allied health disciplines placed emphasis on post-practicum interventions as a way of getting to know "what's out there" and "discover the variances" between one placement and the next. This was explained by one respondent as "not everyone is able to get to work with all types of clientele, therefore it is interesting to learn about other people's experiences based on the population of people they were working with". As with the other cohorts, the most valued aspect of such interventions is "discussing and sharing experiences is a good way to reflect on what has been done and how to improve for the future". A sharing of key cases "offers a chance to learn about these cases that do not come up during university coursework". In sum, this cohort felt it was important to "consolidate the learning experience, and to better prepare for future placements in the short term and job readiness in the long term".

In all, across these sub-cohorts, the informants were able to identify issues that need to be resolved and the ways that post-practicum interventions could address those issues. They were, however, not entirely consistent across the sub-cohorts and in ways that reflect the particular circumstances in which the students engaged in practicums and the nature of the clinical work in which they engaged. So, given this, it is important to understand the kind of interventions that these students believe are likely to be effective and pay attention to the nuanced differences in suggestions provided by each discipline.

### 2.4.3 *Interventions*

The respondents were also asked to indicate their preferences for the timing and processes of the post-practicum interventions. Figure 2.1 presents the results for the preferred timing of interventions.

The strongest preference was for interventions to occur after every practicum (58.7%) followed by a preference for early in the programme (46.3%), perhaps after a number of practicum experiences (40.2%), but less preferred for these towards the end of the course (24.7%). This suggests that the students highly value interventions after every practicum, particularly at the beginning of the programme as they can come to engage with clinical settings and tasks, and are in need of seeking guidance and securing feedback on their progress. This finding provides an informed basis for making decisions about the timing of these interventions.

With regard to preferences for the kinds of interventions, the patterns of responses are consistent with what has been proposed above in terms of important features of post-practicum experiences. Table 2.6 presents the frequencies of responses in percentages arranged hierarchically on the basis of the aggregated responses. In this table, in the left-hand column, the listing of those interventions is provided, and they are arranged hierarchically in response to an aggregation of the degree by which the informants categorise them as being high preference and okay. In the column to the right, this aggregation of two of the four categories of responses (*high* preference, *okay*, *low* preference, and *would not* participate) is used to indicate patterns of preference. Then, the next four columns capture the percentage of responses across the four categories.

The strongest patterns of preferred interventions are those associated with small groupworks facilitated by teachers/tutors (85.4%) or by placement supervisor (81.2%), followed by a one-on-one meeting with either teachers (74.7%) or more

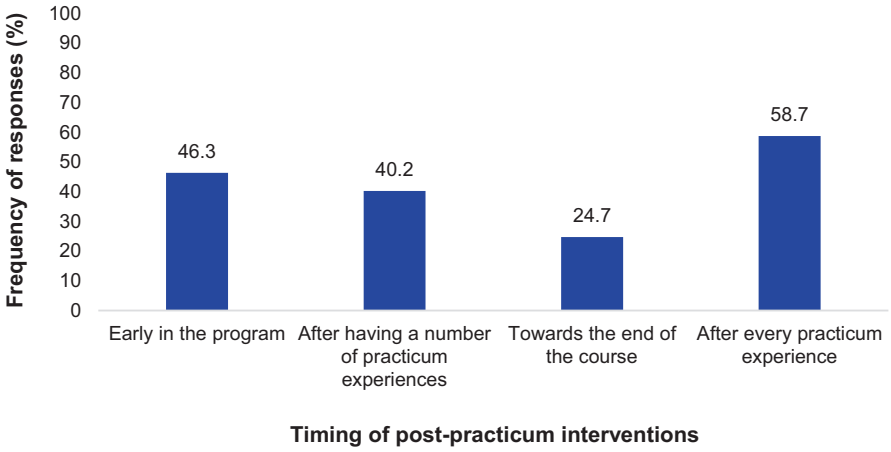


**Fig. 2.1** Responses to the preferred timing of post-practicum interventions

**Table 2.6** *Results of responses to the kinds of intervention*

| Interventions | n | % of responses | | | | |
|---|---|---|---|---|---|---|
| | | Aggregated (HP + Ok) | HP | Ok | LP | WnP |
| Small groups facilitated by teachers/tutors | 337 | 85.4 | 52.2 | 33.2 | 11.3 | 3.3 |
| Small groups meeting periodically facilitated by placement supervisor | 335 | 81.2 | 44.8 | 36.4 | 15.5 | 3.3 |
| One-on-one with teachers | 339 | 74.3 | 41.9 | 32.4 | 22.4 | 3.2 |
| One-on-one with a more experienced student | 334 | 75.7 | 30.5 | 45.2 | 18.6 | 5.7 |
| Small groups facilitated by more experienced students | 335 | 68.7 | 29.9 | 38.8 | 21.5 | 9.9 |
| Shared classroom-based group activities | 334 | 63.1 | 29.3 | 33.8 | 27.2 | 9.6 |
| Individually completed activity with feedback from teachers | 331 | 58.3 | 26.3 | 32.0 | 32.9 | 8.8 |
| Small self-managed groups | 335 | 66.3 | 25.1 | 41.2 | 24.8 | 9.0 |
| As part of usual scheduled class activities | 330 | 63.6 | 18.8 | 44.8 | 29.4 | 7.0 |
| One-on-one with a peer | 336 | 61.7 | 18.5 | 43.2 | 28.0 | 10.4 |
| A special event each semester | 330 | 49.1 | 13.3 | 35.8 | 38.5 | 12.4 |
| Whole of class activities | 328 | 40.3 | 11.3 | 29.0 | 38.7 | 21.0 |
| Online moderated by a tutor | 329 | 31.9 | 9.4 | 22.5 | 36.8 | 31.3 |
| Online with peers | 329 | 27.4 | 7.3 | 20.1 | 38.6 | 34.0 |
| Presentations to peers | 335 | 29.0 | 6.6 | 22.4 | 42.4 | 28.7 |
| Something students should organise | 328 | 23.2 | 4.6 | 18.6 | 45.1 | 31.7 |

*Note*: *HP* high preference, *Ok* okay, *LP* low preference, *WnP* would not participate

experienced students (75.7%). Such preferences confirm what was proposed in the important features of interventions with respect to student concerns about individual performances during practicums and the relation of these performances to their study and career prospects. The next group of intervention options receiving preferences from the majority of the respondents is associated with small groups facilitated by more experienced students (68.7%) and self-managed groups (66.3%). These preferences seem to emphasise the dual concerns about personalised feedback on performance and this coming from a more experienced person proving insights as an expert. Apart from the highly preferred intervention options discussed above, it is interesting to note a few options that generated the highest level of reluctance, i.e. *would not participate*, including online with peers (34%), online moderated by a tutor (31.3%), something students should organised (31.7%), and presentations to peers (28.7%). This indicates that these interventions receive high levels of reluctance when being reported by at least 28% of the respondents.

Overall, the data across a range of healthcare disciplines indicates that interventions in small groups mediated by more experienced individual (i.e. teacher, tutor, placement supervisor, or experienced student) are the most highly preferred options

by the surveyed students, which is analogous to what Lindgren et al.'s (2005) claims but divergent to Nash's (2012) recommendations for the inclusion of peer-led and peer-directed activities to develop critical analysis of learning incidents. While this has important implications for education provisions in meeting students' needs and preferences, considerations about how such provisions might be afforded need to be taken with care. Meeting such needs and preferences is intensely resource-demanding and would be difficult to be sustained within resource-jealous higher education environments and by time-jealous teachers.

Respondents were also given the opportunity to suggest what form these interventions might take and under what circumstances. All sub-cohorts indicated a preference to have interventions conducted face-to-face (not online) with a teacher or knowledgeable other present, in a comfortable and inviting environment, and to occur immediately after the placement (or within 1 week of the end of placement). Many others expressed a need to have regular interventions during placement or at least one opportunity mid-placement. Ongoing support in the form of regular interventions is seen as a valued and particularly helpful enhancement to the placement cycle. However, and as noted previously, there were differences in these preferences across the sub-cohorts.

#### 2.4.3.1 Nursing

For all discipline groups, the most popular suggestion for how these interventions could be conducted was for small groupings of three to six students and conducted in ways that would ensure that all students would have equal opportunities to share and respond. Nursing students wanted the primary focus to be a "sharing of stories", providing participants opportunities to "speak and be heard" and for "all to have a turn". Such discussions should be based around an "educational topic or question", which linked to evidence in practice. Outcomes might include the opportunity for structured self-reflection and for students to receive feedback from the facilitator and their peers. The group could agree, perhaps, upon a particular clinical issue that needed further improvement as a way to structure the sessions. Nursing students reported that they would like to engage with and hear from students in the year above as they value their advice and recommendations. Students want to gain a sense of how they were performing and if they were meeting professional targets. Most importantly, the majority of respondents clearly stated that these interventions needed to be informal in nature and facilitated in such a way that everyone felt comfortable and could "talk openly". Facilitators would need to provide encouragement and allow for students to find a sense of "solidarity and support" and "have fun". For the interventions to be successful, respondents stated that students must be able to "connect with others in a confidential and respectful manner" to discuss concerns experienced while embarking on their rotations. Structured problem-solving activities were offered by several respondents, so participants could learn more about how others "had dealt with negative experiences and how has this impacted on their personal and work life". With this in mind, the interventions would also provide

timely feedback for university staff who, the students suggested, need to be more aware of workplace cultures as they were perceived as being "out of touch" with the current workplace environment. These qualitative statements are comparable to other nursing data, in that students placed emphasis on all participants being involved and benefitting from the activities and that safety and solidarity within the profession were core concerns. It is important that academic staff hear the voices of those who believe they need greater connection with the clinical workplace, so as to provide more accurate and up-to-date information about the placement experience.

#### 2.4.3.2 Medicine

The majority of medical students also desired interventions in small groups that undertook general discussion around the successes and challenges of practicums and led to opportunities for self-reflection. The preference was for these to be led by lecturers and placement supervisors and for the group members to remain consistent in each intervention to "build trust and rapport". It was suggested that each group member would come to the sessions with "an interesting or challenging experience to discuss" and to identify gaps in their personal knowledge that could be addressed. One respondent suggested that participants "discuss one or more interesting patient cases with an experienced teacher to go through holistic views of the history, examination, pathophysiology, and management of the condition". Several respondents would like to know the positive and negative features of each rotation and gain suggested "survival tips" specific to that context. Medical students were also interested in learning more about "how to apply for training and jobs". It is evident here that medical students placed more emphasis on having a framework and focus for each intervention, based around case studies or a topic of concern. Less emphasis on affective outcomes was noted as compared to the nursing students.

#### 2.4.3.3 Midwifery

Midwifery students also preferred these interventions to be teacher-led and in small groups, with the structure "facilitated by a professional in the field of study" with a "facilitation skill-set" and experience in such settings. There was inference that interventions in large group settings would not be as successful as some large group debriefs "get off topic or become dominated by big personalities". These interventions would be to discuss issues with a "practising professional and/or teacher who could shed light on the theory-practice gap to inform future practice". Students might share experiences through detailing "short scenarios" and asking others in the group how they might have dealt with these situations. These students felt that interventions could also include practical "mock-ups" of emergency situations which would increase their confidence to cope in such challenging times. Most importantly, each group member would be "invited to speak or be asked questions to prompt discussion". These responses are more closely aligned with those of the

medical students in that suggested activities were based on scenarios or specific incidences in order to provide closer links between theory and practice.

#### 2.4.3.4 Allied Health

Students in the allied health disciplines placed emphasis on post-practicum interventions as a way of knowing more about the various types of practicums and how their peers' experiences differed to their own. They recognised that the limited number of practicums in their degree could not possibly expose them to the diversity of clientele they would encounter as professionals and that a "sharing of cases" would assist to broaden their knowledge in this respect. In sum, this cohort valued opportunities to consolidate the learning experience and develop a breadth of knowledge required for job readiness and employability. As for medicine and midwifery students, the respondents from allied health wished to increase their knowledge base and work readiness through the sharing of a variety of clinical cases and subsequent discussion through post-practicum activities.

## 2.5 Implications

Findings from the post-practicum survey indicate that students in a range of healthcare disciplines strongly favour the implementation of opportunities to engage with university representatives and their peers after their practicums. These students have clear notions of the main purposes of such interventions, what they would like to see addressed, and under what conditions these activities would take place. Quantitative findings revealed that the most preferred purposes were associated with being informed about career choices including specialisations, linking theory to practice, improving the experience for the next student cohort, and identifying experiences leading to employability. Qualitative responses addressed these purposes in more detail as well as placing an emphasis on comparing and contrasting practicum experiences, gaining knowledge on how best to handle specific clinical situations and negative workplace culture, and to learn more about expected professional conduct. Nursing students wanted to compare and contrast their experiences with those of their peers, to get an idea whether theirs was a typical placement and whether they responded to clinical scenarios in alignment with their cohort (cf Peters et al., 2013). A frequently mentioned purpose in the comments was to improve the overall practicum experience for future cohorts by passing on "tips" and making restructuring recommendations to the universities. These preferences are well aligned with the anticipated outcomes for student practicum experiences and are consonant with the findings associated with concerns and emphasis on receiving feedback on individual progress and performance (Dean & Clements 2010; Dufrene & Young 2014). They also align with findings by Stockhausen (2005) where students in healthcare disciplines see debriefing opportunities as assisting with developing a sense of

professional identity and increasing personal resilience. These sources of data can inform the development of various types of post-practicum intervention activities and the way in which they are conducted so as to focus on these themes. Overall, the data suggest that the respondents are keen to use post-practicum activities to share practicum experiences and discuss these outcomes to understand more about their occupations and how they can use these experiences to inform actions to progress towards employability. This finding is consistent with observations by Walker et al. (2013) and Coward (2011) on the importance of assisting students to develop a professional identity and contribute to their occupational socialisation and also by Maire (2010) whose work highlights the value of sharing experiences.

After stating the perceived purposes of post-practicum interventions, students provided a range of desired features and outcomes of such opportunities. The most frequent responses centred on the development of capacities for coping in the workplace, engaging with peers at similar stages of the programme, and providing feedback to the workplace sites. These desired outcomes highlight the importance students place on realising effective learning outcomes from workplace experiences. Respondents elaborated on these preferences through comments which stressed the rich opportunities such interventions would provide them to learn from the experiences of others, to "fill in the gaps" in their own understandings, gain support, decrease feelings of isolation, and identify and overcome the disjunct between suggested management of professional situations as proposed at a university and in practice in clinical settings. Preferences for when and how these interventions would be conducted were offered. The majority of students preferred informal activities that involved small groups of students led by a university representative, placement supervisor, or knowledgeable other, directly after the placement finished and in a situation that would allow participants to feel safe and comfortable and for every person to have the ability to speak and be heard. Online options, large groups, and peer-organised interventions were least favoured. Students preferred these meetings to be structured around problem-solving activities, discussing interesting or challenging clinical situations, and providing practical advice for applying for further training and employment.

## 2.6 Conclusions

The overview of studies in this chapter relating to engaging with students before, during, and after their practicums is strongly supported by results from the national questionnaire given to students in nursing, midwifery, medicine, and allied health disciplines described here. These data highlight that students greatly value opportunities to engage with their peers and knowledgeable others and have clear ideas about what these intervention activities might look like and how they might be conducted. It is essential, therefore, that opportunities are provided for students to regularly debrief, reflect, and dissect specific incidences of their placement experiences and use these opportunities to consolidate theory and practice, meet graduate

outcomes and industry standards, and increase work readiness. Given the nuanced data between discipline areas, it is recommended that preliminary investigations (perhaps questionnaires) be used to guide the development of post-practicum activities as (while there are commonalities) differences in expectations and needs can be used to carefully craft opportunities specific to the particular cohort. Further research into the outcomes and perceived value of post-practicum interventions (such as described in this volume) may further enhance the effectiveness of the placement experience.

## References


Australian Government. (2018). *Workplace Gender Equality Agency*. Retreived from: https://www.wgea.gov.au/

Billett, S. (2009). Realising the educational worth of integrating work experiences in higher education. *Studies in Higher Education, 34*(7), 827–843.

Billett, S. (2015). *Integrating practice-based experiences into higher education*. Dordrecht, The Netherlands: Springer.

Billett, S., Cain, M., & Le, A. H. (2016). Augmenting higher education students' work experiences: Preferred purposes and processes. *Studies in Higher Education*. https://doi.org/10.1080/03075079.2016.1250073

Courtney-Pratt, H., FitzGerald, M., Ford, K., Marsden, K., & Marlow, A. (2012). Quality clinical placements for undergraduate nursing students: A cross-sectional survey of undergraduates and supervising nurses. *Journal of Advanced Nursing, 68*(6), 1380–1390.

Coward, M. (2011). Does the use of reflective models restrict critical thinking and therefore learning in nurse education? What have we done? *Nurse Education Today, 31*(8), 883–886. https://doi.org/10.1016/j.nedt.2011.01.012

Curran, L. (2004). Responsive law reform initiatives by students on clinical placement at La Trobe law. *linders Journal of Law Reform, 7*(2), 287–301.

Dean, B. A., & Clements, M. (2010). *Pathway for student self-development: a learning-orientated internship approach*. University of Wollongong Research Online. http://ro.uow.edu.au/cgi/viewcontent.cgi?article=2478&context=commpapers

Dean, B. A., Sykes, Ch., Agostinho, S., & Clements M. (2012). *Reflective assessment in work-integrated learning: to structure or not to structure, that was our question*. University of Wollongong Research Online. Accessed at: http://ro.uow.edu.au/cgi/viewcontent.cgi?article=3617&context=commpapers

Doel, S. (2008). F*ostering student reflection during engineering internships*. 10th anniversary edition of the Asian-Pacific Journal of Cooperative Education. Selected papers from the 2008 Biennial Asia-Pacific Conference on Cooperative Education, Manly, Australia.

Dufrene, C., & Young, A. (2014). Successful debriefing - best methods to achieve positive learning outcomes: A literature review. *Nurse Education Today, 34*(3), 372–376.

Forde, S., & Meadows, M. (2011). Industry placements in journalism education: Exploring enhanced learning and professional growth for interns. *Journalism Research and Education Section of IAMCR*. http://jrejournal.com/ojs-2.3.7/index.php/jre/article/view/12

Fuscaldo, G. (2013). *Addressing cultural diversity in health ethics education*. Sydney: Office for Teaching and Learning. http://chs.unimelb.edu.au/programs/ethics_in_human_research_practice/projects/addressing_cultural_diversity_in_health_ethics_education

Holt, D., Mackay, D., & Smith, R. (2004). Developing professional expertise in the knowledge economy: Integrating industry-based learning with the academic curriculum in the field of information technology. *Asia-Pacific Journal of Cooperative Education, 5*(2), 1–11.

Levett-Jones, T., Gersbach, J., Arthur, C., & Roche, J. (2011). Implementing a clinical competency assessment model that promotes critical reflection and ensures nursing graduates' readiness for professional practice. *Nurse Education in Practice, 11*(1), 64–69. https://doi.org/10.1016/j.nepr.2010.07.004

Lindgren, B., Brulin, C., Holmlund, K., & Athlin, E. (2005). Nursing students' perception of group supervision during clinical training. *Journal of Clinical Nursing, 14*(7), 822–829. https://doi.org/10.1111/j.1365-2702.2005.01245.x

Macleod, C., Sweet, L., Cavaye, A., Fanning, C., Mills, D., & Oliphont, J. (2011, August). Learning and leading: An innovative approach towards maximising the effectiveness of work-integrated learning at Flinders University. *Ergo 1*(2). http://www.ojs.unisa.edu.au/index.php/ergo/article/view/1068/758

Maire, J. (2010). Bridging the gap between learning at work and in the classroom through a structured post-placement seminar. Special Issue of the *Asia-Pacific Journal of Cooperative Education Work Integrated Learning (WIL): Responding to Challenges*, 103–113. http://www.apjce.org/files/APJCE_11_3_103_113.pdf

Nash, R. (2012). *Good practice report. Clinical teaching*. Sydney: Australian Learning and Teaching Council. https://eprints.qut.edu.au/70895/1/GPR_clinical_teaching_Nash_2011.pdf

Owen, S., & Stupans, I. (2008). *Experiential placements in pharmacy. 'Quality indicators for best practice approaches to experiential placements in Pharmacy programs'*. Adelaide: Carrick Institute, University of South Australia.

Peters, K., Halcomb, E. J., & McInnes, S. (2013). Clinical placements in general practice: Relationships between practice nurses and tertiary institutions. *Nurse Education in Practice, 13*(3), 186–191. https://doi.org/10.1016/j.nepr.2012.09.007

Ryan, M., & Ryan, M. (2013). Theorising a model for teaching and assessing reflection learning in higher education. *Higher Education Research & Development, 32*(2), 244–257. https://doi.org/10.1080/07294369.2012.661702

Schön, D. (1983). *The reflective practitioner: How professionals think in action*. London: Temple Smith.

Stockhausen, L. (2005). Learning to become a nurse: Students' reflections on their clinical experiences. *Australian Journal of Advanced Nursing, 22*(3), 8–14.

Walker, R., Cooke, M., Henderson, A., & Creedy, D. (2013). Using a critical reflection process to create an effective learning community in the workplace. *Nurse Education Today*. https://doi.org/10.1016/j.nedt.2012.03.001

# Part II
# Post-practicum Curriculum and Pedagogies

# Chapter 3
# Implementation and Evaluation of the Post-Practicum Oral Clinical Reasoning Exam


**Tracy Levett-Jones, Helen Courtney-Pratt, and Natalie Govind**

## 3.1 Introduction

Clinical reasoning is intrinsic to all aspects of nursing care (Fonteyn & Ritter, 2008) and critical to patient safety (Aiken, Clarke, Cheung, Sloane, & Silber, 2003). Nurses with poor clinical reasoning skills often fail to recognise and respond to the critical patient cues that are precursors to impending patient deterioration (Levett-Jones et al., 2010). However, while the ability to 'think like a nurse' is essential to safe practice, teaching and assessing a complex cognitive skill such as clinical reasoning can be challenging. This chapter describes the implementation and evaluation of an innovative and clinically relevant post-practicum oral exam designed to facilitate and assess nursing students' clinical reasoning skills. While clinical reasoning is often taught and assessed in preparation for clinical placements, a post-practicum assessment is a valuable approach for identifying if and to what extent students' clinical learning experiences influence their aquisition of this essential skill. This chapter provides a detailed overview of the development and evaluation of the post-practicum clinical reasoning exam (PPCRE) and guidelines for educators interested in adopting this novel approach.

T. Levett-Jones (✉) · N. Govind
University of Technology Sydney, Sydney, Australia
e-mail: tracy.levett-jones@uts.edu.au

H. Courtney-Pratt
University of Tasmania, Hobart, Australia



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_3

## 3.2 Background

### *3.2.1 Defining Clinical Reasoning*

'Clinical reasoning' is often used interchangeably with terms such as 'clinical judgement', 'problem-solving', 'decision-making' and 'critical thinking'. While clinical reasoning is informed by a critical thinking 'disposition' (Scheffer & Rubenfeld, 2000), it is essential to define clinical reasoning and distinguish it from other more generic cognitive skills. Without this clarity, the development of teaching and assessment procedures will be at best ill-informed and at worst poorly constructed and confusing for students. Consequently, a number of definitions of clinical reasoning have emerged. For example, Fonteyn and Ritter (2008) suggest that clinical reasoning is a discrete, systematic and cyclical problem-solving process; and Tanner (2006) describes clinical reasoning as the processes by which nurses make clinical judgements, by generating alternatives, weighing them against the evidence and choosing the most appropriate. For the purpose of this chapter, we define clinical reasoning as a 'process by which nurses collect cues, process the information, come to an understanding of a patient problem or situation, plan and implement interventions, evaluate outcomes, and reflect on and learn from the process' (Levett-Jones, 2018, p. 4). A diagram illustrating this approach to clinical reasoning is provided in Fig. 3.1.

The clinical reasoning cycle represents the evolving nature of patient assessment and clinical interventions, along with the importance of evaluation and reflection on care provision. Beginning at 1200 h, the clinical reasoning cycle moves in a clockwise direction following eight main stages: *look*, *collect*, *process*, *decide*, *plan*, *act*, *evaluate* and *reflect*. Although each stage is presented as a separate and distinct element in this diagram, clinical reasoning is a dynamic process with nurses often combining one or more stages and moving backwards and forwards between them before reaching a decision and executing appropriate nursing actions.

### *3.2.2 The Significance of Clinical Reasoning*

Over the last decade, healthcare has become increasingly complex and dynamic. Changes in patient acuity, with many patients often older and sicker, coupled with rapid patient turnover, mean that the work of healthcare professionals has become much more challenging than it was 10 or 20 years ago. Against this background, the ability to respond to complex and emergent clinical problems requires not only psychomotor skills and knowledge but also sophisticated thinking abilities (Levett-Jones et al., 2010). Nurses therefore need highly developed clinical reasoning skills to ensure safe and effective patient care.

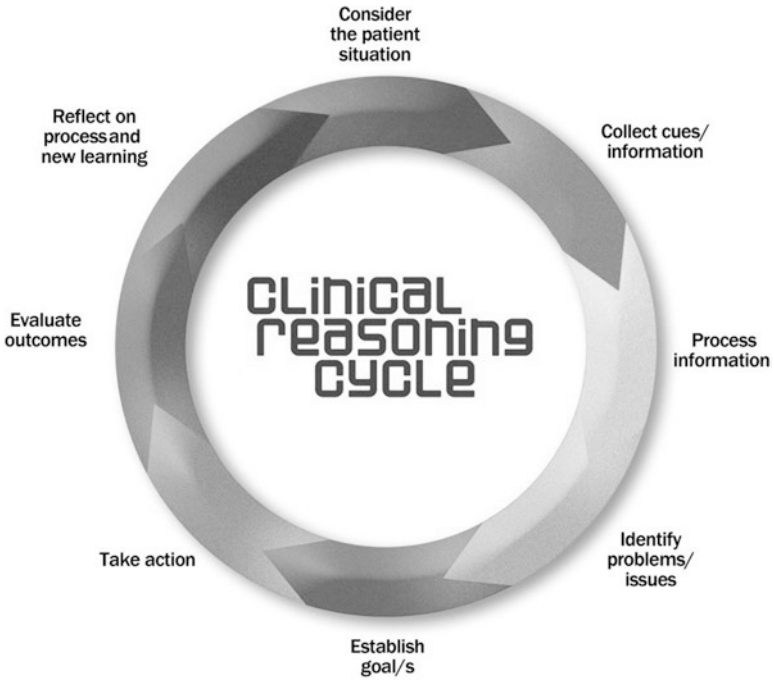


**Fig. 3.1** The clinical reasoning cycle. (Levett-Jones et al., 2010)

### *3.2.3 Teaching and Assessing Clinical Reasoning*

Graduate nurses are frequently required to care for and make decisions about complex patients with diverse healthcare needs in time-sensitive situations. However, many contemporary teaching methods have proven largely ineffective in helping nursing students develop the requisite level of clinical reasoning skills needed for their future practice (Lapkin, Levett-Jones, Bellchambers & Fernandez, 2010). For example, a large-scale study conducted in the United States by del Bueno (2005) identified that 65–70% of graduate nurses demonstrated an unsafe level of clinical reasoning skills. In an Australian study, graduates demonstrated similar deficits in clinical reasoning and a limited ability to recognise and respond appropriately to patient deterioration (Cioffi, Salter, Wilkes, Vonu-boriceanu, & Scott, 2006). These studies illustrate the need for more attention to the teaching and assessment of nursing students' clinical reasoning skills, along with more effective pedagogical approaches.

Multiple methods have emerged to teach clinical reasoning, for example, simulation-based learning activities (Lapkin et al., 2010), e-learning modules (Hoffman et al., 2010; Sinclair et al., 2017), written assessment items (Cioffi et al., 2006) and think aloud activities (Fonteyn & Ritter, 2008). However, opportunities for active engagement in authentic, experiential, deliberate learning and assessment activities have emerged as one of the most effective approaches for helping nursing

students acquires high-level clinical reasoning skills (Lapkin et al., 2010). These types of teaching and learning activities underscore the importance of assessment *for* learning, rather than just assessment *of* learning (Levett-Jones, 2018). They also create individualised opportunities for purposeful learning designed to facilitate deep thinking about specific aspects of clinical reasoning. These deliberate practice experiences are most effective when educators provide:

- Clear learning objectives
- Adequate time for problem-solving
- Prompts when needed/appropriate
- Immediate and meaningful feedback
- Opportunities for reflection and repeated practice (Ericsson, Krampe & Tesch-Römer, 1993)

Now that the importance of clinical reasoning skills and the need for effective teaching and learning approaches have been established, the next section of the chapter outlines the development and implementation of the post-practicum oral clinical reasoning exam.

## 3.3 Implementation of the Post-Practicum Oral Clinical Reasoning Exam (PPOCRE)

### *3.3.1 Rationale*

The post-practicum oral clinical reasoning exam (PPOCRE) was designed to facilitate deep thinking about real practice problems. It allows for assessment of nursing students' content knowledge (domain-specific) and process knowledge (clinical reasoning ability). In the project described in this chapter, our aim was to replace a written post-practicum clinical reasoning assessment item with an oral 'think aloud' exam. Although clinical reasoning is often taught and assessed prior to and in preparation for clinical placements, the post-practicum exam was considered to be a valuable method for identifying the impact of students' clinical placement experiences on their cognitive skill acquisition.

In our previous experiences of teaching and assessing clinical reasoning, it had become apparent that students often struggle when attempting to write about how they apply the framework of clinical reasoning to patient care. Additionally, in the course feedback, students had commented that it would be much 'easier' to articulate their clinical reasoning in a conversation than it was in a formal written assignment. Thus, the PPOCRE was conceptualised as a strategy that may address these concerns by using a less rigid assessment approach. Our decision was premised on the assumption that an oral exam had the potential to facilitate students' ability to describe their practice without the constraints imposed by formal academic writing.

### 3.3.2 Preparation

All second year undergraduate nursing students were required to undertake the PPOCRE as a mandatory assessment item. In the university where the PPOCRE was implemented, clinical reasoning was integrated into all theoretical and practice-based courses in the undergraduate nursing programme. Thus, students had been provided with a number of opportunities to develop their clinical reasoning skills. Additionally, students had attended a 2-week acute care clinical placement immediately prior to the exam, which we anticipated would allow them to further develop their clinical reasoning skills in an authentic and experiential manner. Preparatory information about the PPOCRE was provided on the learning management system Blackboard™, in lectures and in tutorials.

### 3.3.3 Conducting the PPOCRE

The PPOCRE was conducted by trained assessors who met with individual students in a quiet and private room. The process began by ensuring that students understood the objectives and requirements. Students were then given a verbal clinical handover which outlined key information about four patients (see Table 3.1). The clinical scenarios presented were related to the care of patients with cardiac and respiratory conditions similar to those that students had recently studied in tutorials, lectures and simulations. Additionally, cardiac and respiratory conditions are high prevalence disorders that students would typically encounter during their clinical placements. The patient data and background were not presented in its entirety, but the extent of information provided was consistent with the limited details typically available to nurses at the beginning of a shift. The healthcare records for the patients were also available and included observation charts, progress notes and pathology reports. Additional subjective and objective data about the patients was provided if requested by the student.

Based on the information provided, students were then required to identify which of the four patients would be their first priority. They had 30 min to outline their rationale for this decision and to provide an outline of how they would plan and manage the care of this patient using the clinical reasoning cycle as their organising framework. An iterative ‘think aloud’ approach (Forsberg, Ziegert, Hult & Fors, 2014) was used with students describing the types of questions they would ask the patient, the cues they would collect and analyse, the healthcare professionals they would collaborate with, their nursing diagnosis for the identified patient, as well as their clinical actions and rationales for care. The assessor prompted students, if needed, by asking questions such as: ‘Are any of those cues outside of normal ranges for your patient?’ ‘Which cues support your nursing diagnosis?’ and ‘Why did you select that particular nursing action instead of other possible options?’ Throughout the exam students were expected to use correct healthcare terminology and professional language. The PPOCRE was marked using a structured rubric

**Table 3.1** Transcript of verbal handover provided about the four patients

*Lucy Mason*

**Introduction**

Mrs. Mason, 90 years old, was admitted 1 week ago with functional decline at home. Her husband is recently deceased and he was her primary carer

**Situation**

Mrs. Mason is awaiting a nursing home placement

**Background**

Mrs. Mason has a history of hypertension, significant hearing loss and rheumatoid arthritis. She is also legally blind

**Assessment**

All observations stable. Mrs. Mason needs help to set up her meals and full assistance with ambulation and hygiene. She is alert and orientated

**Recommendation/request**

For follow-up with social worker today

*Albert Brown*

**Introduction**

Albert Brown, 70 years old, was admitted 2 days ago after 3 days of fever and increasing sputum production. His GP had started him on oral antibiotics. Mr. Brown called an ambulance when he woke and 'could not catch his breath'

**Situation**

CXR on admission revealed infective exacerbation of COPD secondary to community-acquired pneumonia. Mr. Brown is receiving salbutamol four hourly and ipratropium eight hourly via nebuliser. IV ceftriaxone daily. PIVC to L antecubital fossa

**Background**

Mr. Brown smokes 25 cigarettes per day. He has end-stage COPD and mild CCF

**Assessment**

Mr. Brown's last vital signs were BP, 135/75 mmHg; HR, 110 bpm regular; RR, 26 bpm; T, 38.3; and SpO2 94% with 30% oxygen via venturi mask. A sputum sample was sent to pathology yesterday

**Recommendation/request**

For a follow-up CXR today

*Giorgio Mattiou*

**Introduction**

Giorgio Mattiou (74 years old)

**Situation**

Day 7 since his admission with community-acquired pneumonia (CAP); his sputum pathology is now positive for methicillin-resistant *Staphylococcus aureus* (MRSA), so he has been moved to a single room and is on contact precautions (droplet)

**Background**

History of type 2 diabetes that is relatively well controlled. Last Hba1C 7.5%. Hypertension, osteoarthritis (10 years) and a recent right hemisphere stroke (moderate) – 12 weeks ago. Weakness on left side still present. He is able to tolerate thin fluids. Since the stroke, Giorgio sometimes reverts to speaking Greek, his native language

**Assessment**

A: Patent, talking. B: RR 20, Sp02 95% RA, air entry is decreased on both sides in the bases and crackles are evident. No signs of increased WOB, green sputum collected, weak cough present. C: BP 140/80, HR 89 irregular, peripheral pulses present, peripherally cool. D: Alert and orientated at present, GCS 15, PEARTL 3+, able to move all his limbs, unsteady gait, transferring from bed to the chair. E: Skin integrity – intact, slight reddened areas on the heels, T 38.1 degrees C, abdomen soft and non-tender, bowel sounds present, bowels opened last evening. F: Tolerating oral fluids well; skin turgor – normal, fluid balance neutral and urine output adequate (using a bottle). G: glucose 8.1.

**Recommendation/request**

Physiotherapist and dietitian review today

(continued)

**Table 3.1** (continued)

| |
|---|
| *Donald Johnson*<br>**Introduction**<br>Mr. Donald Johnson, 55 years old, has just arrived to the ward from CCU. He is at day 2 after presenting to the hospital via ambulance after complaining of central chest pain for approximately 2 hours and then collapsing at home. NSW chest pain pathway commenced in ED, initially managed with sublingual GTN and morphine<br>**Situation**<br>Mr. Johnson's ST elevation was noted on ECG yesterday. He was diagnosed with a STEMI. PCI was performed last night, and he was transferred from coronary care unit to the ward this morning<br>**Background**<br>Mr. Johnson's hypertension is well controlled; he has type 2 diabetes (diet controlled), but no other significant history<br>**Assessment**<br>On arrival about 15 min ago, Mr. Johnson's observations included the following<br>RR 27, Sp02 90% RA, increased WOB, air entry is clear, R = L HR 123, BP 100/65 mmHg, cool peripherals, complaining of pain 8/10. GCS 15, able to move all limbs PEARTL 3+, temp 36.6 °C, 1 x PIVC in right hand. No IV fluids currently. Mr. Parker last voided 4 h ago, his mucosa is moist, and glucose is 14.4 mmol/L<br>**Recommendation/request**<br>To remain on bed rest, continuous cardiac monitoring, is awaiting cardiology review this am |

which aligned with the stages of the clinical reasoning process (see Table 3.2). Educators were also provided with clear performance criteria for each of the elements of the rubric.

## 3.4 Evaluation of the Post-Practicum Oral Clinical Reasoning Exam

In addition to analysing students' overall performance in the PPOCRE, we also sought to feedback on students' perspectives and experiences. Participant satisfaction data is important both to evaluate the learning experience and to gather suggestions for future improvement (Kirkpatrick, 2009). Despite learner satisfaction often being considered the 'low hanging fruit' in terms of evaluation, educational psychologists suggest that student satisfaction can facilitate self-confidence which can in turn enhance skill development (Pike, 1991). Because this was the first time that the PPOCRE had been used, satisfaction data was considered important, in addition to evidence of student performance.

A literature search was conducted to identify validated instruments for assessing learner satisfaction with oral exams; however, no appropriate tool was found. For this reason the Satisfaction with Simulation Experience Scale (SSES) (Levett-Jones et al., 2011), which had evidence of psychometric integrity, was adapted for use in this study. It was titled Satisfaction with Post-practicum Oral Clinical Reasoning Exam Scale (SPPOCRES) (see Table 3.3).

**Table 3.2** The marking rubric for the PPOCRE

| |
|---|
| *Consider the situation* |
| The student identified the highest priority patient from the information provided in the verbal handover |
| The student explained why this patient is priority |
| *Collect cues/information* |
| The student identified accurate cues to be collected and how this would be undertaken using a systematic approach |
| The student identified the priority body system that was the focus of the assessment and why this body system is a priority |
| *Process information* |
| The student discussed how they would analyse data and distinguish normal from abnormal findings |
| The student distinguished relevant from irrelevant information |
| The student applied pathophysiological knowledge and linked abnormal findings to actual or potential patient problems |
| The student predicted a potential adverse outcome that may occur if the appropriate action was not taken |
| *Identify problem* |
| The student identified the patient's priority problem/s |
| The student provided an accurate nursing diagnosis by relating the main patient problem to aetiology and supporting evidence |
| *Establish goals* |
| The student described a priority goal related to the nursing diagnosis identified, the desired outcome and time frame |
| *Take action* |
| The student outlined three nursing actions that should be taken in order to address the patient's problem (nursing diagnosis) and to achieve the specified goal, each supported with clear rationales |
| *Evaluation of outcomes* |
| The student described how the effectiveness of the nursing actions would be evaluated |
| *Reflection* |
| The student discussed what they had learned from preparing for and participating in the oral exam |
| The student described two clinical strengths and two areas for future improvement |
| The student identified two strategies that would be taken to address identified areas for improvement |

The 14 SPPOCRES items were scored using a five-point Likert scale with response ranges from 1 (strongly disagree) to 5 (strongly agree). These types of rating scales allow for measurement of direction and intensity in relation to participants' opinions, beliefs, attitudes and perceptions. The SPPOCRES also includes one open-ended question to elicit learner's overall perspectives of the oral exam. Quantitative data from the SPPOCRES was statistically analysed using the Statistical Package for Social Sciences statistical software package version 22.0 for Windows (IBM Corp, 2013); and an interpretive inductive approach was used to analyse the qualitative data from the open-ended question (Sandelowski & Barroso, 2007).

**Table 3.3** SPPOCRES scores

| Items | Strongly disagree | Disagree | Unsure | Agree | Strongly agree | Mean |
|---|---|---|---|---|---|---|
| 1. The educator made me feel comfortable and at ease during the oral assessment | 16 | 20 | 23 | 60 | 65 | 3.38 |
| 2. I was able to use what I learned from my clinical placement in the oral assessment | 23 | 37 | 25 | 66 | 33 | 2.86 |
| 3. The oral assessment allowed me to demonstrate my knowledge about patient care | 16 | 38 | 30 | 62 | 38 | 2.88 |
| 4. The oral assessment helped me to recognise my strengths and weaknesses in terms of problem-solving | 11 | 25 | 13 | 78 | 57 | 3.58 |
| 5. The oral assessment helped me to recognise my strengths and weaknesses in terms of prioritising and planning patient care | 13 | 24 | 21 | 82 | 44 | 3.31 |
| 6. The oral assessment caused me to reflect upon my clinical reasoning ability | 10 | 19 | 17 | 83 | 55 | 3.56 |
| 7. The educator's questions during the oral assessment helped me to learn | 17 | 36 | 27 | 59 | 45 | 2.99 |
| 8. I believed I performed better in the post-practicum oral assessment than I would have had I undertaken it prior to my clinical placement | 14 | 37 | 59 | 36 | 38 | 2.29 |
| 9. I will be able to use what I learned from the oral assessment in my future practice | 14 | 23 | 22 | 80 | 45 | 3.29 |
| 10. The educator provided constructive feedback following the oral assessment | 21 | 38 | 29 | 55 | 39 | 2.81 |
| 11. The oral assessment was a valuable form of assessment | 39 | 27 | 22 | 39 | 57 | 2.90 |
| 12. The oral assessment was an appropriate way to assess my clinical reasoning ability | 30 | 29 | 31 | 47 | 46 | 2.77 |
| 13. The oral assessment was a fair way of assessing my clinical reasoning ability | 34 | 36 | 23 | 46 | 43 | 2.77 |
| 14. I preferred the oral assessment rather than a written assessment item for assessing clinical reasoning | 43 | 24 | 22 | 21 | 74 | 2.96 |

Ethical approval was sought and obtained from the university ethics committee (ethics approval number, H-2016-0342) prior to advertising the evaluation study.

An announcement and a participant information statement were posted on an electronic learning management system (Blackboard™). While undertaking the PPOCRE was mandatory, participation in the research project was voluntary and anonymous, and only students who provided written informed consent were included. On completion of the oral exam, students were provided with a copy of the SPPOCRES, and they were asked to return it to a submission box in another section of the building. Data were collected between July and November 2016.

### *3.4.1 Evaluation Results*

In the following section, participants' demographic characteristics are described, followed by student performance results and lastly student satisfaction results.

**Participants** A total of 471 students completed the oral exam, and 181 students completed the SPPOCRES, giving a response rate of 38%. The majority (91%) of participants were female, and 63% were currently or previously employed in the healthcare industry, mainly as assistants in nursing, diploma-qualified enrolled nurses or healthcare assistants.

**Student Performance** The PPOCRE was worth 30 marks. The mean mark achieved for the assessment item was 20.36 and the median was 20 (SD 4.46). Twenty-eight students achieved a mark of less than 15 and received a fail grade for their initial attempt.

Analysis of areas of strength and weakness revealed that although most students were able to identify the highest priority patient, the rationales given for their decision varied considerably. Many students supported their decision by listing abnormal signs and symptoms, and while this was not incorrect, few students were able to link the signs and symptoms to the cardiac issue that was of primary concern. Overall students' knowledge of pathophysiology was not strong. For example, many students were able to cluster cues together (e.g. increased respiratory rate as a result of decreased Sp02 or increased heart rate to compensate for hypotension) but were unable to explain the trigger for the deterioration (i.e. why was Sp02 decreased or heart rate increased) and the underlying pathophysiology.

Students' ability to identify and analyse appropriate cues also varied. For example, while most students said: 'I'd do a comprehensive A to G assessment' (airway, breathing, circulation, disability, exposure, fluids, glucose level), few specified the details of this assessment, the cues they would collect or that an ECG was imperative. A few students overlooked cue collection (i.e. the second stage of the clinical reasoning cycle) completely and went directly to the nursing action stage of the clinical reasoning cycle without being able to provide a rationale for their decision. Although most students were able to reiterate the patient's medical diagnosis, the

provision of a nursing diagnosis was more challenging, and a number of students struggled with using correct terminology when identifying a priority problem. Following on from the nursing diagnosis, students' ability to identify appropriate nursing actions was also variable. While most realised the patient's condition was deteriorating, few recognised that a rapid response was required.

Overall, these results provide insights into many of the students' poor performance in the PPOCRE. Some had an obvious knowledge deficit about the healthcare conditions of the patients profiled in the exam and the related pathophysiology. Other students had a limited ability to use higher-order cognitive skills to analyse and synthesise the patient information, or to predict potential adverse outcomes, which are each key components of the clinical reasoning process. One of the key benefits of the PPOCRE was that it provided educators with in-depth insights, not only about students' knowledge and skill deficits but more importantly the thinking that underpinned their decision-making. One educator stated that the PPOCRE 'let me see *why* students were making mistakes as opposed to a written assignment where you get no understanding of why students come to a particular decision'.

### Student Perceptions – Quantitative Results

The mean SPPOCRES score (determined by averaging the 14 items) was 3.03 out of a maximum of 5 indicating a moderate level of participant satisfaction with the oral exam. Table 3.3 lists the scores for students' degree of agreement with each of the 14 SPPOCRES items. The variable satisfaction scores for many of the items indicate that students' views about aspects of the PPOCRE tended to be quite polarised.

The three highest SPPOCRES scores were for:

**Item 1**: *The educator made me feel comfortable and at ease during the oral assessment* (M 3.38).
**Item 4**: *The oral assessment helped me to recognise my strengths and weaknesses in terms of problem-solving* (M 3.58).
**Item 6**: *The oral assessment caused me to reflect upon my clinical reasoning ability* (M 3.56).

The three lowest SPPOCRES scores were for:

**Item 8**: *I believed I performed better in the post-practicum oral assessment than I would have had I undertaken it prior to my clinical placement* (M 2.29).
**Item 12**: *The oral assessment was an appropriate way to assess my clinical reasoning ability* (M 2.77).
**Item 13**: *The oral assessment was a fair way of assessing my clinical reasoning ability* (M 2.77).

**Student Perceptions – Qualitative Results**

When conducting the qualitative analysis, we began by repeatedly reading participants' responses in order to develop a general understanding of the data. This was followed by a detailed interpretation to discover emergent and recurring ideas and underlying meanings. The data were then categorised into overarching themes (Sandelowski & Barroso, 2007). Three main themes that emerged from the thematic analysis were 'Better than written assessment items', 'Authenticity of the approach' and 'The need for better preparation'. Participant quotes supporting each of these themes are provided below.

### *3.4.2 Better than Written Assessment Items*

Notwithstanding the variable responses to the SPPOCRES items, students articulated a number of positive features of the PPOCRE in response to the open-ended question. Foremost was the individualised and seemingly informal exam approach that allowed them to interact with the assessor and ask questions when they were unclear. A number of students expressed a preference for an oral exam over a written assessment item, suggesting that the oral exam provided the opportunity to explain their thinking and rationales for care provision. Students also valued the immediacy of the feedback provided and the prompts received from assessors throughout the exam process. Students' perceptions about why they preferred the PPOCRE are illustrated in the quotes below:

- *I liked that it was face-to-face and individualised.*
- *It was good being able to interact with the assessor.*
- *It was clearer than written assessment items as we could ask the assessor questions.*
- *It took a lot less time than a written assessment item and there was no need for references!*
- *I was able to able to talk about my clinical reasoning and provide justification for my answers.*
- *Feedback was immediately provided so we knew exactly how we were going.*

**Authenticity of the Approach**

The authenticity of the patient scenarios was a recurring theme in the students' responses, with a number commenting that the PPOCRE allowed them to demonstrate relevant nursing skills such as the ability to prioritise patient care. Some students felt that because the oral exam was conducted following their clinical placement, it provided the opportunity for them to apply what they had learned from practice:

- *The patient scenarios were realistic and authentic.*
- *The oral assessment allowed me to carefully think about and prioritise patient care just like I would on the job.*
- *I was able to demonstrate my knowledge and understanding of the patient situations.*
- *The oral exam made you think and reflect.*
- *Undertaking the assessment item after my clinical placement allowed for practical application of what I had learned.*

**The Need for Better Preparation**

A recurring theme was the need for better explanation and preparation activities prior to the PPOCRE. Some students felt that the information provided was inadequate and the marking rubric lacking in clarity. Students also provided suggestions for how the assessment item could be improved, for example, by provision of more information about each of the patients in the scenarios prior to the exam and access to the image of the clinical reasoning model during the exam. A number of students also felt that the 30-minute time allocation was inadequate for the type of assessment:

- *A clearer and more detailed assessment description was needed to give us an idea of what to expect.*
- *More information was needed about each of the patients and should have been provided before the assessment.*
- *There should have been something like a clinical handover provided before the day of the exam to help us prepare.*
- *A cheat sheet with the clinical reasoning cycle included would have helped us to structure our thinking during the exam.*
- *I needed more time to think through each answer properly.*

## 3.5 Discussion and Limitations

The PPOCRE was a novel assessment approach that challenged students to demonstrate their clinical reasoning skills, explain their thinking and justify how they would prioritise patient care needs. This approach provides some advantages to written assessment items and exams, particularly for assessment of cognitive skills. However, students' results and the variable SPPOCRES scores suggest that improvement in a number of key aspects of the PPOCRE is required.

It appeared from the qualitative SPPOCRES data that, although most students were satisfied with their assessor, there was nevertheless a degree of variability in the quality, clarity and amount of feedback provided by the assessors. Standardisation and inter-rater reliability are critical for all types of assessments. Greater attention to ensuring equity in the execution of the PPOCRE will therefore be needed in

future iterations, along with the provision of more training and moderation opportunities for assessors.

SPPOCRES feedback suggested that many students felt ill-prepared for the PPOCRE, a perception that was perhaps exacerbated by the fact that this was the first time students had encountered an oral exam. In addition to the provision of in-class and online instructions, it is evident that students also need opportunities to practise and rehearse these types of oral clinical reasoning assessments. Learning to 'think aloud' can be challenging, even for experienced clinicians (Bucknall, 2000). Consequently, for students to learn to perform well in an oral exam, they need multiple opportunities for deliberate practice along with the provision of feedback on performance.

Positioning the PPOCRE as a post-practicum activity was designed to enhance application of learning from clinical placements. The degree to which this eventuated is difficult to ascertain from the variable student feedback data. However, anecdotal feedback from both students and educators suggested that, while clinical reasoning is regularly addressed in on-campus teaching and learning activities, formal and 'just in time' informal opportunities for students to 'think aloud' while on clinical placements could be advantageous to their learning and preparation for the PPOCRE. This approach would provide clinical educators with diagnostic information about students' cognitive skills and ability to prioritise patient care. Additionally, these types of clinical learning activities would allow students to rehearse their thinking about patient care, with the provision of immediate feedback and correction of any misconceptions about practice issues.

One of the key advantages to the PPOCRE identified by the educators was that it gave them a deeper appreciation of students' clinical reasoning skills and cognitive processing ability than they would normally gain from marking a written assignment. Understanding the thinking that underpins students' decision-making as well as their strengths and weaknesses in clinical reasoning is valuable and can provide educators with guidance for designing future teaching, learning and assessment activities.

### *3.5.1 Limitations*

While the study outlined in this chapter makes an important contribution to the nursing literature, there are some limitations that must be considered. A proportion of the participants had previous experiences working in healthcare which may have influenced the results. Therefore, generalisability cannot be assumed. Additionally, it was not possible to correlate the results with students' previous academic or clinical performance, so the extent to which these factors impacted the results cannot be determined. Further, internal consistency reliability of the SPPOCRES was not determined in this study. As instrument development is an iterative process, future studies in different contexts and with different cohorts would provide evidence of this scale's psychometric integrity. Lastly, further research to determine the long-term impact of the PPOCRE experience on students' future performance is required.

## 3.6 Conclusion

The implementation and the evaluation of the PPOCRE, as described in this chapter, provides insights into some of the benefits, challenges, advantages, and disadvantages of oral post-practicum clinical reasoning exams. Without doubt, assessment of clinical reasoning is not an easy undertaking. However, given the impact of clinical reasoning on patient outcomes, it is imperative. We hope that this chapter will encourage educators to challenge the status quo and take risks when designing innovative post-practicum clinical reasoning assessment activities.

## References

Aiken, L. H., Clarke, S. P., Cheung, R. B., Sloane, D. M., & Silber, J. H. (2003). Educational levels of hospital nurses and surgical patient mortality. *JAMA, 290*(12), 1617–1620.

Bucknall, T. (2000). Critical care nurses decision-making activities in the natural clinical setting. *Journal of Clinical Nursing, 9*(1), 25–36.

Cioffi, J., Salter, C., Wilkes, L., Vonu-boriceanu, O., & Scott, J. (2006). Clinicians responses to abnormal vital signs in an emergency department. *Australian Critical Care, 19*(2), 66–72.

del Bueno, D. (2005). A crisis in critical thinking. *Nursing Education Perspectives, 26*(5), 278–283.

Ericsson, K., Krampe, R., & Tesch-Römer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review, 100*, 363–406.

Fonteyn, M. E., & Ritter, B. J. (2008). Clinical reasoning in nursing. In D. J. Higgs, M. A. Jones, S. Loftus, & N. Christensen (Eds.), *Clinical reasoning in the health professions* (3rd ed., pp. 235–244). Oxford, UK: Butterworth-Heinemann.

Forsberg, E., Ziegert, K., Hult, H., & Fors, U. (2014). Clinical reasoning in nursing, a think-aloud study using virtual patients - a base for an innovative assessment. *Nurse Education Today, 34*(4), 538–542.

Hoffman, K., Dempsey, J., Levett-Jones, T., Noble, D., Hickey, N., Jeong, S., et al. (2010). The design and implementation of an interactive computerised decision support framework (ICDSF) as a strategy to improve nursing students' clinical reasoning skills. *Nurse Education Today, 31*(6), 587–594.

IBM Corp. (Released 2013). *IBM SPSS Statistics for Windows*, version 22.0. Armonk, NY: IBM Corp.

Kirkpatrick, D. L. (2009). *Implementing the four levels: A practical guide for effective evaluation of training programs: Easyread super large 24pt edition*. ReadHowYouWant.com. ReadHowYouWant.com.

Lapkin, S., Levett-Jones, T., Bellchambers, H., & Fernandez, R. (2010). The effectiveness of using human patient simulation manikins in the teaching of clinical reasoning skills to undergraduate nursing students: A systematic review. *Clinical Simulation in Nursing, 6*(6), e207–e222.

Levett-Jones, T. (2018). Clinical reasoning – What it is and why it matters. In T. Levett-Jones (Ed.), *Clinical reasoning: Learning how to think like a nurse* (2nd ed.). Frenchs Forrest, Australia: Pearson.

Levett-Jones, T., Hoffman, K., Dempsey, Y., Jeong, S., Noble, D., Norton, C., et al. (2010). The 'five rights' of clinical reasoning: An educational model to enhance nursing students' ability to identify and manage clinically 'at risk' patients. *Nurse Education Today, 30*(6), 515–520.

Levett-Jones, T., McCoy, M., Lapkin, S., Noble, D., Hoffman, K., Dempsey, J., et al. (2011). The development and psychometric testing of the satisfaction with simulation experience scale. *Nurse Education Today, 31*(7), 705–710.

Pike, G. (1991). The effects of background, coursework, and involvement on students' grades and satisfaction. *Research in Higher Education, 32*, 15–31.

Sandelowski, M., & Barroso, J. (2007). *Handbook for synthesizing qualitative research*. New York: Springer.

Scheffer, B., & Rubenfeld, M. (2000). A consensus statement on critical thinking in nursing. *Journal of Nursing Education, 39*, 352–359.

Sinclair, P., Levett-Jones, T., Morris, A., Carter, B., Bennett, P., & Kable, A. (online 2017). High engagement, high quality: A guiding framework for developing empirically informed asynchronous e-learning programs for health professional educators. *Nursing & Health Sciences*, *19*(1), 1–137.

Tanner, C. (2006). Thinking like a nurse: A research-based model of clinical judgement in nursing. *Journal of Nursing Education, 45*(6), 204–211.

# Chapter 4
# Utilising a Post-Placement Critical Assessment Task to Consolidate Interprofessional Learning


**Gary D. Rogers, Michelle Parker-Tomlin, Kelly Clanchy, James Townshend, and Pit Cheng Chan**

## 4.1 Introduction

This chapter describes the development and implementation of a critical assessment task undertaken by health professional students during and after routine clinical placements, with the aim of consolidating a programme of interprofessional learning (IPL). We will argue that the capabilities required by health graduates for effective collaborative practice between multiple health professions after graduation are complex and span the three domains of learning first postulated by Bloom et al. (1956): cognitive, psychomotor and affective. We will also posit that the acquisition of these capabilities during the preregistration training of health professionals requires a planned, coordinated and scaffolded programme of interprofessional learning activities.

We will demonstrate that the routine clinical placements undertaken by health professional students in interprofessional practice settings provide an opportunity to consolidate that learning, towards the end of each student's programme, through utilisation of the assessment task. The task places the candidate into a critical posture in relation to the practice of an interprofessional team that they have had the opportunity to observe during routine clinical placements. Finally, the chapter will consider this assessment activity as a particular type of post-practicum experience that has the potential to augment specific kinds of learnings that may be acquired in the clinical environment.

G. D. Rogers (✉) · M. Parker-Tomlin · K. Clanchy · J. Townshend · P. C. Chan
Griffith University, Gold Coast, QLD, Australia
e-mail: g.rogers@griffith.edu.au



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_4

## 4.2 Background

In this section we will describe the concept of interprofessional education (IPE), its purposes, history, theoretical bases and implementation in health professional education, broadly and at our own institution. This will establish the context for our need to develop and evaluate the assessment and learning activity that was the subject of the study.

According to the Centre for the Advancement of Interprofessional Education (CAIPE) in the United Kingdom, IPE occurs when "members or students of two or more professions learn with, from and about each other to improve collaboration and the quality of care and services" (2016, p. 1). Effective collaboration between practitioners in different health professions is an essential component of contemporary health and social care, as well as of health promotion. It enables the increasingly complex health issues of current times to be addressed successfully and with optimal safety for patients and clients (Barton, 2014; Kara, Johnson, Nicley, & Niemeier, 2015).

We have defined interprofessional collaborative practice (IPCP), the object of IPE, as "health and community service professionals working together using complementary knowledge and skills, to provide care to patients, clients and communities, based on trust, respect and an understanding of each other's expertise" (Rogers et al., 2017b, p. 347). We have also suggested the collaboration of musicians in the symphony orchestra, as an apt metaphor for IPCP (Rogers & Chesters, 2014). In the orchestra, each player is accomplished in playing one (or more) of a diverse range of instruments but also possesses a separate set of capabilities that enables them to combine their efforts into a collaborative performance that is greater than the sum of its parts.

The IPL and collaborative practice movement in healthcare began more than 40 years ago, but its impact has been accelerated in the last two decades by inquiries into healthcare misadventure in multiple countries that detailed adverse outcomes associated with faulty interprofessional communication and collaborative practice (Kohn, Corrigan, & Donaldson, 2000; Bristol Royal Infirmary Inquiry, 2001; Garling, 2008; Francis, 2013). An emerging literature on the positive impacts of effective collaborative practice on health outcomes (Reeves et al., 2010; Reeves, Perrier, Goldman, Freeth, & Zwarenstein, 2013) and the effectiveness of IPL in improving IPCP (Reeves, Palaganas, & Zierler, 2015) also underlines the importance of IPE.

In 2010, the World Health Organization published a global *Framework for Action on Interprofessional Education and Collaborative Practice*. In the same year, the *Sydney Interprofessional Declaration*, formulated at the fifth world All Together Better Health Conference, asserted, in Article 1, a universal entitlement to "fully integrated, interprofessional collaborative health and human services" (Participants at the All Together Better Health 5 International Conference, 2010, p. 1). The *Declaration* went on, in Article 3, to place a responsibility on the providers of healthcare worker education and training to provide "significant core elements" of

interprofessional education that "include practical experiences" and are "formally assessed" (p. 1). This requirement for the assessment of learning, as well as the compulsory inclusion of IPE in health programmes, are seen as imperative in relation to the messaging to learners about the importance of these capabilities. We would argue that merely making IPL activities available as an elective option to health professional students, or failing to assess their outcomes, sends a clear message that the institution does not value this area of learning in comparison to other, compulsory and assessed, areas of the programme.

### *4.2.1 Theoretical Perspectives on IPE*

Explicit advocacy for the implementation of IPE as a means to improve IPCP in healthcare appears to have arisen as a response to discourses of dissatisfaction with the effectiveness of health services in managing complex health problems and preventing healthcare misadventure. This occurred first in the United Kingdom in the 1960s and 1970s (Barr, 2002; Green, 2014), and considerably later, around the turn of the current century, in the USA (Fairman, 2016), on a background of long and complex prior histories of the individual health professions and the interactions between them. At the time of its crystallisation as a social movement, there was little formal theorisation about IPE, but more recently scholars have begun to examine the phenomenon from a range of theoretical standpoints (Clark, 2009; Hean, 2012; Billett, 2014; McMurtry, Rohse, & Kilgour, 2016).

In our efforts to make the dimensions of interprofessionalism easily comprehensible, both to health professional students and to the academics and clinicians who facilitate their learning, we have found particular utility in the application of the now very old, but refreshingly straightforward, theorisations of Benjamin Bloom and David Krathwohl from the 1950s and 1960s (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956; Krathwohl, Bloom, & Masia, 1964). Their characterisation of three primary domains of learning outcome, cognitive (knowledges and understandings), psychomotor (skills) and affective (values, attitudes and appreciations), has proven particularly useful for assisting clinical educators to understand and categorise the complex range of capabilities that health students need to acquire in order to engage in effective IPCP after graduation. The importance of these three domains has recently been underlined (though without explicit reference to Bloom and Krathwohl's work) by Billett (2014) as elements of the "intersubjectivity" that he argues is central to effective IPCP. He suggests that "whilst shared understandings and awareness are essential and powerful foundations for effective co-working, they need to be complemented by shared procedures (i.e. how to do things) and dispositions (i.e. values, beliefs, interest)" (p. 207).

Hean and colleagues, in their guide to the application of theory to IPE (2012), conclude that "a single theoretical orientation is insufficient in such a complex field, where different groups of learners meet for a variety of purposes at different stages of their professional development" (p. 81). We concur with this opinion and have

drawn on a range of theorisations as we sought to implement an effective IPE programme, as described in the next section.

### *4.2.2 The Development of IPE at Griffith University*

This section provides an account of the development of a programme of IPE at our own institution, in order to provide an understanding of the organisational context and implementation issues that necessitated the development of the pedagogical activity that is the subject of the study.

Griffith University, based in Queensland, Australia, has a very large health faculty where almost 12,000 students undertake a comprehensive range of health professional degree programmes across eight schools and five campuses, situated along the Brisbane-Gold Coast corridor. Beginning in 2011, the institution answered the challenge issued by the *Sydney Interprofessional Declaration* (Participants at the All Together Better Health 5 International Conference, 2010, p. 1) and undertook a process to implement effective IPL across its health faculty.

Engaging the medical profession effectively in IPE – an activity that seeks to question and unsettle traditional professional hierarchies that privilege its practitioners – has long been recognised as a significant implementation barrier (Whitehead, 2007). With this concern in mind, the Griffith health faculty Dean (Learning & Teaching) invited a senior academic from the School of Medicine (GDR) to initiate the university's IPE development process. He convened a collaborative advisory group comprising officially nominated representatives from each school, as well as academics from across the faculty who had expressed enthusiasm for the project, as champions. This combination of formal *imprimatur* and collegial enthusiasm appears to have been critical to the success of the initiative (Teodorczuk, Khoo, Morrissey, & Rogers, 2016).

The advisory group developed an *Implementation Framework for Interprofessional Learning at Griffith Health*, which aimed to ensure that all health professional graduates from the institution have the capabilities required for effective IPCP (Griffith Health Institute for the Development of Education and Scholarship, 2011). It included ten "threshold learning outcomes" that all graduates are expected to achieve and describes a unique, three-phase, pedagogy for the fulfilment of those outcomes. The term "threshold learning outcomes", used in the *Framework*, was coined by a, roughly contemporaneous, Australian Learning and Teaching Council project to refer to the minimum outcomes that a graduate in a particular discipline must achieve (O'Keefe et al., 2014, p. 9). The ten such outcomes of the original Griffith *Framework* are summarised in Table 4.1 and, although independently developed, align very closely with the capabilities contained in the multiple interprofessional outcome frameworks from around the globe evaluated by Thistlethwaite's group (Thistlethwaite et al., 2014), as well as those recently synthesised by O'Keefe and colleagues (O'Keefe, Henderson, & Chick, 2017). The Griffith threshold learning outcomes were also specifically designed to

**Table 4.1** Griffith University Threshold Interprofessional Learning Outcomes

| Upon graduation, Griffith-trained health professionals will be able to: | |
|---|---|
| 1. | Articulate the purpose for effective interprofessional practice, in relation to optimisation of the quality, effectiveness and person-centredness of health and social services, in order to assist patients and clients to maximise their health and wellbeing |
| 2. | Work effectively in a team, both in the role of team member and of team leader |
| 3. | Describe the potential barriers to effective teamwork and strategies through which they may be overcome |
| 4. | Describe the roles, responsibilities, practices and expertise of effective members of their own profession |
| 5. | Describe the roles, practices and expertise of effective members of each of the other major health professions |
| 6. | Recognise and challenge stereotypical views in relation to the roles, practices and expertise of particular health professions in their own thinking and in the communication of others |
| 7. | Express their professional opinions competently, confidently and respectfully to colleagues in any health profession |
| 8. | Listen to the opinions of other health professionals effectively and respectfully, valuing each contribution in relation to its usefulness for the patient, client or community concerned, rather than on the basis of the professional background of its contributor |
| 9. | For individual-level care: |
| | Synthesise the input of multiple professional colleagues, together with the beliefs, priorities and wishes of the patient or client and their significant others, to reach consensus on optimal treatment, care and support and how it should be provided, |
| | While for community-level health activity: |
| | Synthesise the input of multiple professional colleagues, together with the values and priorities of the community concerned, to reach consensus on optimal interventions and how they should be implemented |
| 10. | Reflect critically and creatively on their own performance in health professional team settings |

encompass all three domains of learning according to Bloom's taxonomy (1956): cognitive (the knowledges and understandings required for IPCP), psychomotor (collaborative skills) and affective (interprofessional values).

### *4.2.3 The Griffith Three-Phase Programmatic Model of IPL*

This section summarises the rationale for development and implementation of the Griffith programmatic model of IPL in order to demonstrate the pedagogical context that necessitated the development of the activity evaluated in the study.

We formulated the three-phase pedagogy as a response to controversy about *when* it was most appropriate to undertake interprofessional education activities across the course of a preregistration health professional education programme. Previously, one school of thought had held that it was better to undertake this learning as early as possible in a health student's education in order to pre-empt

enculturation into the entrenched and prejudicial views that each health profession traditionally holds in relation to the others (Horder & McPherson, 1996). We have described this phenomenon as the "tribalism" of the health professions (Rogers, Chan, & Buys, 2012), and recent empirical work by Braithwaite's group (2016) has investigated its origins from the subcultures that develop in health workplaces. The second cluster of opinion suggested that it might be better to wait until later, when health professional students had begun to develop some sense of their own professional identity and so could engage more meaningfully in collaborative learning activities that seek to compare and contrast professional viewpoints (Pirrie, Wilson, Harden, & Elsegood, 1998). We postulated that this was, in fact, a false dichotomy and that what was required to optimise IPL was a *programmatic* approach that sequences different activities, appropriate to learners' levels of development, across their preregistration learning programmes. Although we arrived at this idea independently (and couched the term, inspired to some extent by van der Vleuten and Schuwirth's [2005] "programmatic assessment"), careful review of the literature indicates that, as early as 1998, Harden had argued that "what matters is that an approach to [what was then called] multiprofessional education is adopted which is appropriate to [the] phase of education" (p. 403). On this basis, we devised a three-phase pedagogy for interprofessional education, as illustrated in Fig. 4.1.

Previously it had been believed that all IPE activities needed to meet the CAIPE definition cited earlier in order to be effective (i.e. that they should provide interactive opportunities for learning "with, from and about" students from other professions). We theorised that, under a programmatic model, this criterion might be met across a whole learning programme, rather than, necessarily, for each individual learning activity (Teodorczuk et al., 2016). Thus, the effectiveness of necessary, but high cost and logistically challenging, "CAIPE-compliant" activities might be enhanced by simpler preparatory activities scheduled earlier in professional programmes and consolidated through other, intentionally designed but less complex "capstone"

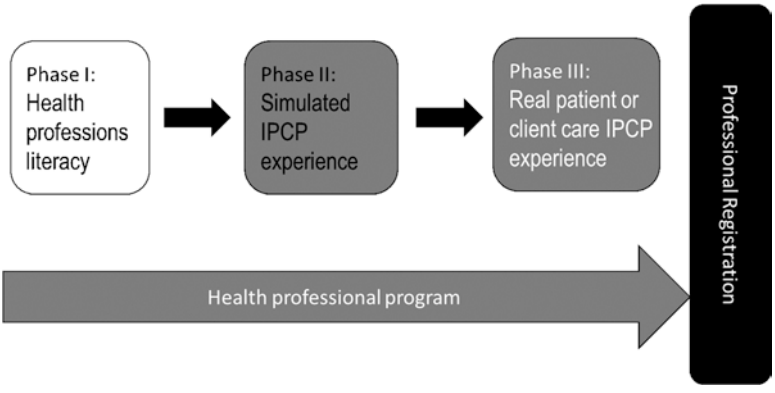


**Fig. 4.1** Griffith University three-phase interprofessional pedagogy. (Adapted from Teodorczuk et al., 2016)
**(IPCP = Interprofessional Collaborative Practice)**

activities later in programmes. Each phase in this scaffolded programme of learning activities was coupled to appropriate forms of assessment so that an array of different assessment methodologies was utilised across each health degree, as subsequently recommended in the *International Consensus Statement on the Assessment of Interprofessional Learning Outcomes* (Rogers, et al., 2017b). Thus, the programmatic approach to the provision of IPL activities is complemented by a programmatic approach to the assessment of their outcomes, analogous to that proposed by van der Vleuten and Schuwirth (2005). The activity evaluated in this study aims to complement and consolidate the other assessments described in this section.

#### 4.2.3.1 Phase I

The first phase of the Griffith interprofessional pedagogy focuses on learners attaining what we have called "health professions literacy". This is "an understanding of the history, theoretical underpinnings, philosophy, roles and contributions of the major health professions, including participants' own" (Teodorczuk et al., 2016, p. 9). It comprises fairly straightforward foundational cognitive learning that does not necessarily need to be undertaken interprofessionally, though obviously the opportunity for interaction between students in different professions remains of value where it can be achieved. Phase I is designed to be undertaken early in each learner's health professional education programme. We have devised a video-based learning activity focused on a male character with a wide range of health risk factors, who has avoided engagement with health professionals for most of his life. In the narrative of the video, he experiences a serious motor vehicle accident and then encounters multiple different healthcare practitioners during his initial treatment, hospital stay and subsequent rehabilitation. As each of the workers introduce themselves to him, the video is intercut with a "to-camera" interview where the practitioner explains the elements of health professions literacy related to their own occupation. For students in some health programmes, the video story is viewed over two large group learning sessions and augmented with interactive discussion of additional clinical scenarios in which students identify the health professionals who might usefully contribute and the justification for their inclusion. For others, logistics necessitate that students undertake the learning individually online. The activity is assessed through the use of pre- and post-activity multiple choice quizzes, utilising scenario-based stems and combinations of professions, as well as possible reasons for their inclusion, in the alternative answers to be selected. A quantitative evaluation has confirmed a significant immediate improvement in health professions literacy in association with undertaking the activity (Morrissey, Rogers, Chan, Kerkow, & Desbrow, 2014).

#### 4.2.3.2 Phase II

The second phase of the pedagogical framework aims to provide all health professional students with a *simulated* IPCP experience, around the middle of their programme of preregistration training. This might be as simple as a mixed professional group jointly undertaking an otherwise conventional problem-based learning case, provided that the learners have the opportunity to interact and consider together how each profession might contribute to the care of the patient or client under discussion, as well as how the approaches of the professions differ from each other. Phase II also provides the opportunity for more sophisticated learning activities. At Griffith University, these include interprofessional communication skill workshops, where mixed-profession groups work with trained human simulated patients and clients, as well as a specially designed preparatory programme for students to undertake prior to clinical placement in mental health settings. In the latter activity, students from nursing, clinical psychology, social work, medicine and, sometimes, other relevant professions, such as pharmacy and occupational therapy, work together utilising narrative video trigger materials that examine the input of each profession into a patient and client's care journey. The activity also exposes students to the dynamic interactions between different members of the mental health team in the face of a stressful work environment (Morrissey et al., 2011).

The "flagship" Phase II IPL activity at Griffith University is Clinical Learning through Extended Immersion in Multimethod Simulation (CLEIMS). In CLEIMS, students from multiple professions undertake week-long extended simulations of junior health professional life. Multiple human simulated patients, clients and relatives are utilised, as well as technological simulation, online simulation of after-hours calls, simulated documentation, discharge planning meetings and "just in time" seminars and workshops on topics raised by the simulation (Rogers, McConnell, Jones de Rooy, Ellem, & Lombard, 2014; Teodorczuk et al., 2016; Rogers, Mey, & Chan, 2017a). CLEIMS is assessed through a combination of direct observation with Likert scale rating of learners' (simulated) interprofessional practice and analysis of post-activity reflective journals to identify evidence of learning in the affective domain, utilising a phenomenologically informed methodology (Rogers et al., 2017a). Robust evaluations have confirmed that CLEIMS brings about measurable improvements in students' cognitive understanding and practical skills (Rogers et al., 2014), as well as significant affective learning related to professional values, including interprofessional values (Rogers et al., 2017a).

#### 4.2.3.3 Phase III

The final phase of the Griffith IPL *Framework*, the subject of this chapter, was designed to focus on a real patient- or client-care IPCP experience, undertaken towards the end of each student's health professional programme. We had originally envisaged that this would involve participation in an interprofessional student

service team, in accordance with the model developed by the University of Linköping in the late 1980s and largely sustained in several Swedish centres since (Wilhelmsson et al., 2009). However, we found this approach to be extremely difficult to initiate and maintain, at scale, for the hundreds of learners for whom we needed to provide. As a result, we became interested in the potential offered by the conventional clinical placements that all health professional students undertake in the senior years of their programmes, especially since such activities now almost always involve placement within interprofessional *practitioner* (as opposed to student) teams, as most contemporary healthcare is now undertaken in team models, though these teams may vary in the effectiveness of their collaborations.

In accordance with our programmatic approach, we postulated that a carefully designed post-placement activity might enable these conventional placements to provide for consolidation of the interprofessional learning that had been initiated earlier in the programme. If effective, such an individually completed activity might provide a much more logistically feasible and sustainable means to fulfil the third phase of the IPL *Framework*. Since it functions as both a learning *and* an assessment activity, we anticipated that it might also provide a mechanism through which to verify that the understandings and, perhaps, the values that underpin IPCP capabilities have been acquired prior to graduation. Thus, it might fulfil the requirement of Article 3 of the *Sydney Interprofessional Declaration* that IPE be "formally assessed" (Participants at the All Together Better Health 5 International Conference, 2010, p. 1) and serve to overcome some of the weaknesses in our current assessment armamentarium identified in the recently published *International Consensus Statement on the Assessment of Interprofessional Learning Outcomes* (Rogers et al., 2017b).

## 4.3 Method

In this section we will describe the development of the assessment and learning activity, as well as the way that it was trialled and evaluated. We were seeking to devise a "capstone" activity in relation to our interprofessional learning programme. According to Wagenaar (1993, p. 209), a capstone is a "culminating experience in which students are expected to integrate, extend, critique, and apply the knowledge gained" in a course of study. Accordingly, we devised an individually completed assessment activity that deliberately placed learners into a critical posture in relation to the collaborative functioning of an interprofessional practitioner team that they had had the opportunity to observe closely during their conventional clinical placements. This approach aligns with a considerable literature supporting the promotion of critical thinking capabilities as an adjunct to experiential learning among health professionals (e.g. Maudsley & Strivens, 2000; Dye, 2005; Delany & Watkin 2009), based on ideas about reflection on practice that go back at least as far as John Dewey (1933).

All students in the respective senior cohorts of our medicine (n = 149), pharmacy (n = 61) and exercise physiology (n = 21) programmes at the time took part in the pilot implementation, which utilised the activity as a summative assessment piece. The medical students undertook the activity around the middle of their final year of our four-year, graduate-entry, Doctor of Medicine (MD) programme, by which time they would have undertaken a total of nine, seven-week, full-time clinical placement rotations in both hospital- and community-based settings. They were advised of the requirement to undertake the activity at the beginning of their fourth year and invited to draw upon any of their placement experiences during the third or fourth year. Thus, some would have undertaken the activity based on recall of prior experience, while others may have deliberately observed teams prospectively in order to complete the activity. For the pilot, the assignment provided 10 marks out of 160 required to pass the "Doctor and the Patient" theme, which is one of four longitudinal themes in the MD programme. Students must demonstrate a satisfactory standard of achievement in all four themes in each year in order to progress or, after the fourth year, to graduate.

Pharmacy students were drawn from both our Bachelor of Pharmacy and Master of Pharmacy professional programmes. Both groups undertook the activity directly after completion of their single block of clinical placement, which included both community and hospital settings. They were informed about the activity well in advance of their placement, and this information was reinforced in workbooks provided 2 weeks before it began. For both groups of pharmacy students, the activity was treated as a summative assessment that contributed 10% of their available marks for grading of the placement course in which the clinical attachment was completed.

The exercise physiology students undertook the activity in relation to the clinical placement component, which constitutes half of the one-year, full-time, Graduate Diploma of Exercise Science. This is a professional programme that enables graduate students to obtain accreditation to practice as an exercise physiologist in Australia. These allied health professionals specialise in graded exercise therapy and lifestyle interventions for persons at risk of developing, or with existing, chronic and complex medical conditions or injuries (Exercise & Sports Science Australia, n.d.). Exercise physiology students were advised of the assessment activity in advance of commencing the first of their two clinical placements, then reminded at the time they commenced their second placement. The assignment was submitted at the conclusion of the second clinical placement period. It was a mandatory hurdle task for a nongraded unit, and students were required to complete the task to a satisfactory standard in order to pass the unit overall.

We advised all candidates that the purpose of the assessment task was to encourage them to apply the understandings of interprofessional collaborative practice that they had gained during their professional programme to their experience of a real clinical team during clinical placement. We stated explicitly that the task was intended to assist them to consolidate that learning through adopting a critical posture with regard to an interprofessional team that they had had the opportunity to observe. We pointed out particularly that the aim of the assessment was for them to

demonstrate their understanding of effective collaborative practice within an interprofessional team and that the focus of the activity was primarily on *the team*, rather than the candidate as an individual within that team. We asked learners to focus on their observations of an interprofessional team (including at least two different health professions) into which they had been placed, or otherwise had the opportunity to observe, during their clinical placements. We asked them to describe and critique the interprofessional functioning of the team they had observed, based on the understanding and experience of collaborative practice they had gained during their programme. The accounts were required to be between 1000 and 1500 words in length and were submitted via the University's electronic submission portal, which conducts automated originality checking on submitted text. Candidates were given the following specific instructions:

- Briefly describe the team, its setting and its purpose.
- Describe examples that you have observed of effective collaborative practice within the team, and say why they were effective.
- Describe examples that you have observed of less effective collaborative practice within the team, and say why (including any consequences).
- Provide practical suggestions of measures that might be taken to improve the interprofessional function of the team.

We asked them to consider: communication between the practitioners from different professions; the power dynamics within the interprofessional team; and how the team's interprofessional practice might have impacted on its effectiveness and ultimately the welfare of the patient (s), client(s) or community with whom it was working. The assessment pieces were marked (and written feedback provided) in the second half of 2016. Summative assessment was undertaken according to the following marking schema:

- 25%: Description of examples of effective collaborative practice within the team
- 25%: Description of examples of less effective collaborative practice within the team
- 25%: Suggestions of measures to improve the interprofessional function of the team
- 25%: Degree to which the writing demonstrated understanding of the essential components of collaborative interprofessional practice

The marking schedule was pragmatically designed in order to ensure that candidates paid attention to critiquing the collaborative practice they had observed, as well as to demonstrating their general understanding of interprofessional practice. The same assessor, (MP-T) who is a Registered Psychologist with experience as an interprofessional facilitator, marked all of the assignments after benchmarking approximately 10% of papers from each professional group by marking in parallel and discussion with an IPE-experienced academic from the relevant profession (GDR, JT or KC). Trialling of the assessment activity and subsequent analysis of students' writings was considered to be an "evaluation" activity and thus judged

"out of scope" by our institutional ethics committee, but the quotations provided in the Findings section are presented with the express consent of their authors.

The text from the candidates' assignments was then subjected to thematic analysis according to Braun and Clarke's method (2006) with the aim of identifying common content areas on which candidates had reported. This involved repeatedly reading the participants' writings, generating initial codes about particular aspects of interprofessional practice and then refining these into themes (such as "role understanding" or "respectful interaction"). In addition to the thematic analysis focused on content areas, we also undertook a separate phenomenologically oriented analysis utilising a method that we have developed (Rogers et al., 2017a) with the specific intention of finding textual evidence of the application of interprofessional understanding gained earlier in the programme and, particularly, any apparent consolidating effect on learning, in participants' experience of the assessment activity itself. This learning-oriented analysis focused especially on the affective domain of learning (Krathwohl, Bloom, & Masia, 1964), which, in this case, encompasses the acquisition of the values and attitudes that underpin effective IPCP.

In addition, we conducted group interviews with medical student volunteers who had participated in the activity, several weeks after marks and feedback had been provided. This section of the study did require ethics approval, and this was obtained from our local research ethics committee (protocol number: 2016/758). We used a semi-structured interview schedule to explore the learners' experience of undertaking the activity including, particularly, how they had drawn on prior IPL and how their understanding of collaborative practice had developed during completion of the assessment activity itself. Audio recordings of the group interviews were transcribed verbatim.

We employed our locally developed phenomenologically oriented analytical methodology (Rogers et al., 2017a), based on Smith's (1996) interpretative phenomenological analysis (IPA), to interrogate the transcripts. Hermeneusis, or "sense-making", has long been recognised as critical to learning (Resnick, 1983) and is at the heart of constructivist understandings of the process. Our IPA-derived approach employs a "double hermeneutic" technique (Smith & Osborn, 2008, p. 53). The participant's account of what may be an example of learning is first examined to determine how *they* appear to have made sense of their experience (the first hermeneutic). A second examination of each apparent example of learning is then undertaken where *the analyst* attempts to look behind the words and make sense of the participant's sense-making in psychological terms (the second hermeneutic). This method is utilised because learning, especially in the affective domain, is an internal, often emotional and intensely personal experience. As Smith and Osborn put it:

> people struggle to express what they are thinking and feeling, there may be reasons why they do not wish to self-disclose, and the researcher has to interpret people's mental and emotional state from what they say (2008, p. 54).

The double hermeneutic approach aimed to enhance identification of the affective learning that is critical to the acquisition of IPCP capabilities (Rogers et al., 2017a).

In the next section, we will examine the findings of the study derived from the numerical summative assessment results of candidates, as well as analysis of their writings and of the transcripts of the subsequent group interviews.

## 4.4 Findings

In this section we will report on the findings of the study, derived from learners' summative assessment results and a thematic examination of the content of their writing, as well as a phenomenologically oriented analysis of both their written assignments and the transcripts of the post-activity interviews. We will demonstrate that the activity appeared to confirm that effective IPL had occurred across the IPE programme and, further, that the capstone activity had served to consolidate that learning prior to graduation.

### *4.4.1 Summative Assessment Results*

148/149 (99%) of the medical students, 60/61 (98%) of pharmacy students and 18/21 (86%) of exercise physiology students were assessed to have fulfilled the IPL outcomes satisfactorily on summative assessment, according to the predetermined marking criteria. These findings serve to support the contention that the programme of IPE had brought about IPL that could be identified and verified by the activity under investigation.

### *4.4.2 Written Assignment Analysis*

When the written pieces were analysed, it was evident that the overwhelming majority of learners had acquired a rich and nuanced understanding of many of the vital elements of IPCP, particularly: role understanding, interprofessional communication, respectful interaction, patient- and client-centredness, leadership and the management of power and confidence imbalances within teams.

For example, this medical student provided a clear account of their understanding of the roles of key professions:

> The nurses provide most of the direct contact with the patient, they do the majority of the physical care, observe and report on the patient's status over time and assist in clinical decision making. The pharmacist provides expertise on medication … side effects and interactions. The occupational therapist is primarily concerned with what activities (be they work, leisure or self-care) that the patient needs and values.

Similarly, the following medical student participant's account of a team's function evidenced sound health professions literacy in relation to the role delineation between physiotherapy and occupational therapy in rehabilitation after surgery:

> The physiotherapists are responsible for getting the patient out of bed, beginning to mobilise to varying degrees based on their specific injuries and surgeries. They also perform assessments on their safety in doing these activities … Occupational therapists are also important in post-surgical care. In Mr Y's case, the occupational therapist was quick to organise appropriate crutches and foot braces following surgery, which in conjunction with the physical therapy program initiated by the Physiotherapist, would allow Mr Y to become more mobile and functional.

Interprofessional communication was an important area of capability that many participants clearly both understood and valued. The following exercise physiology learner's account demonstrated their understanding of both the speaking and listening dimensions of effective interprofessional communication:

> During this interprofessional collaboration, engaged listening was used to ensure effective teamwork to ultimately enhance quality of care for the patient. Throughout the education and exercise delivery session, we were able to efficiently communicate with the other allied health professional to provide comprehensive information to the client about their proposed treatment plan.

The following participant from the same professional programme also emphasised the importance of reciprocal respect between professionals in enhancing the effectiveness of communication:

> I believe their collaboration was effective because they had mutual respect for each other and were open to communication, even when they disagreed with the direction of the client care, they discussed possible pathways that adapted the clients (sic) care to supplement the treatment of the doctor, exercise physiologist and physiotherapist.

In the second hermeneutic of phenomenological analysis of the prior quotation, one gains a clear sense, principally in the words "mutual respect" and "even when they disagreed" that the participant has acquired affective domain learning that has led to a subtle but significant change in their world view.

In common with many others, the following medical student participant gave an account of a team's function that clearly demonstrated their developing appreciation of the primacy of patient- and client-centredness. This is again supported by evidence of affective learning in the second hermeneutic phase of the phenomenological analysis, especially in final phrase of the following quotation:

> I believe that this patient centred discussion that I witnessed, in which the team leader and member expressed their opinions openly, made it possible for them to agree on the best possible consensus without pride or ego marring the process.

The following medical student demonstrated that they had acquired an appreciation for the effectiveness of approaches that were mindful of power dynamics and disrupted traditional medical dominance for the benefit of the team's patients and clients:

> … although the doctor would collaborate [in] the discussion, the aim of the meeting was not to report to the doctor but instead provide an avenue for the different health professionals to

> collectively discuss the progress of the patient and where contribution to other specialities was encouraged. This unique setting and power dynamics of the team challenged the stereotypical perception of the doctor being the leader, hence inspiring the allied health specialists to actively participate and engage during patient discussion. This allowed the discussion to be holistic and patient centred which optimised the quality and effectiveness of the provided health care.

The following learner, from the pharmacy programme, nicely summarised their interprofessional understanding across a range of content areas:

> From what I observed, in most circumstances, health professionals worked effectively as a team, expressing their professional opinions when necessary, listening to the opinions of other health professionals and most importantly putting the patient in their best interest. They were able to provide patient centred health care and social services, by synthesising the input of multiple professional colleagues, which enabled optimal treatment, care and support.

In many of the participants' written work, there was also evidence that the critical assessment activity had gone beyond merely confirming their prior learning about the elements of IPCP and had itself had a definite *consolidating* effect on their understanding:

> As a junior medical student, I remember thinking that interprofessional learning seemed intuitive and unnecessary to focus on as a teaching point. I was under the impression that all disciplines understood and respected one another, and everyone knew their place in the hospital system. However, after experiencing both ends of the interprofessional collaboration 'spectrum', I know now that the difference between good and poor communication across disciplines can often also be the difference between good and poor patient outcomes. I feel as though being a medical student offers a very unique opportunity to observe interprofessional teams from a third-person perspective. Many interactions I have witnessed in the hospital have been ones where I was able to sit back and examine the dialogue between different roles, which has helped to develop a gauge of what constitutes good interprofessional collaboration, and where it can be improved.

In the previous quote, we can see progression of the participant's understanding from a prior assumption that collaborative practice "just happened", unproblematically, to a recognition that interprofessional communication varies in its quality and that this has direct impacts on outcomes for patients and clients. In the second hermeneutic of the phenomenological analysis, we gain a clear sense that this realisation – the consolidating effect of the learning activity under examination – led to a small but significant change in the participant's value system in relation to interprofessional collaboration.

### *4.4.3 Post-Activity Interviews*

Only medical students volunteered to participate in group interviews following completion of the assessment activity and did so whilst being "held in seclusion" after their major practical exam (Observed Structured Clinical Examination or "OSCE"), while colleagues undertook the test. A total of 19 participants took part

across 4 group interviews, with group sizes varying from 3 to 6. The researcher who recruited them to participate in the group interviews was not involved in the OSCE assessment, and their participation or not whilst passing the time "in seclusion" was completely voluntary. The immediately post-OSCE setting did, however, appear to have some impact on their concentration and may also have engendered a broadly negative immediate perspective on the activity under study in some participants:

> hopefully there will be change in that area … but there are certain roles within the professions, umm, like, I don't know… I have extreme mental fatigue right now … it was fine and I appreciate the importance … but to be honest having to do an assignment on it – I felt, like, was frustrating and annoying – when you're in your final year trying to get ready for exams.

Nonetheless, the medical student interview data largely mirrored the student writing data across all three professions in providing ample evidence that interprofessional learning had occurred across the programme. For example, this participant related the importance of IPCP to their planned future specialty within medicine:

> … well I'm considering being a psychiatrist, so a lot of mental health teams have nurses, psychologists, social workers and the doctors. So, given that there's a strong chance that's my future field, it was useful, to kind of think about the dynamics of the team I'm probably going to be entering.

This participant acknowledged the impact of "health professions literacy" on team function and thus, impliedly, patient and client care:

> … all the other, you know, different interprofessional, like, professions – professionals [laughs] you know, like pharmacists, speech therapists, nurses … knowing that their roles, and everybody knowing their roles, makes the team function a bit better …

In common with the student writings data, the interviews included multiple clear demonstrations of learning consolidation related to the assessment piece. Even through the post-exam fatigue that is evident in the disjointed language in the following quote, it is apparent that the learner's interprofessional understanding has been deepened by participation in the activity:

> I think it definitely gives you a different perspective, because I had to then, kind of, think about how … effective it is … and how you can improve …. You have to talk – you have to discuss … what you have to do for this patient …. For the purposes of the assessment, not only do I have to be present and a part of the conversation, but then also think critically. I think that adds depth … and it definitely brings a new perspective … if you're thinking critically … you have to … label what's happening and be like 'well this communication is not effective because', and you have to think of a reason why.

The following participant noted that the activity assisted them to pay attention to aspects of interprofessional interactions that would otherwise have been "taken for granted":

> … it definitely made you think more about it – like often things like this happen in the background without you paying attention to it. So, by having to evaluate it, I kind of had to think about all of the interprofessional interactions that I've seen, you know, during my entire time. So, it made me more aware of these interactions ….

Similarly, the following participant recognised that the requirement to interrogate their recollection of team function facilitated identification of benefits that their patients had recognised and reported:

> … it's of more benefit to the patient … you know… so they're receiving more support. You know, they would mention, you know, 'the physio helped me with this' or, you know, 'I got this out of, you know, the dietician' and I guess [it] was very good to have to think back to it.

Some respondents argued, at least at a conscious level, against the high level of importance afforded to interprofessional learning in their programme by the institution:

> there's got [to be] a definite balance around … kind of, over-emphasising this, especially to young medical students who just want to learn how to take care of patients and not kill them.

However, the phenomenological orientation of the analysis revealed that, despite this expressed belief, there was clear evidence on the second hermeneutic that learning had occurred and, at least on some level, been valued, as seen in the following quote from the same participant:

> probably a lot of this has been internalised … we don't consciously 'oh I remember this' and … 'try not to be an asshole' like [laugh] … like it's become part of the journey, you know.

In summary, the findings of the study indicate that the assessment activity under investigation was effective in verifying that effective IPL had occurred in association with the IPE programme, across all three of Bloom's domains (1956). Further, we found clear evidence of a consolidating effect on that learning associated with the requirement for the learner to adopt a critical posture and evaluate the IPCP of a team whose function they had observed.

## 4.5 Discussion

Interprofessional practice capabilities are increasingly being seen as essential if health and social care workers and health promotion practitioners are to provide effective care and prevention services to the patients, clients and communities they serve in the face of the escalating complexity of current times. Professional accreditation bodies are responding to this need by specifying IPCP abilities among the requirements for eligibility to register as a health practitioner (Health Professions Accreditation Collaborative Forum, 2016). A programmatic approach to IPE seeks to provide health professional students with sequenced learning opportunities that will facilitate the development of these capabilities in a progressive manner across the preregistration learning period. To be fully effective, such a programme should include IPCP experiences that involve real patients, clients or communities prior to graduation, but the original "student service teams" model developed in Sweden

(Wilhelmsson et al., 2009) has proven difficult to implement and sustain "at scale" for the large numbers of students now training in the healthcare professions.

We have described the development and piloting of a logistically feasible and sustainable "capstone" learning and assessment activity that enables senior students' experience of real interprofessional practitioner teams, during conventional clinical placements, to consolidate their IPL. Our evaluation appears to confirm that the activity serves the purpose of verifying the acquisition of interprofessional understandings and values across the programme of IPL while at the same time consolidating that learning prior to graduation and laying the foundation for ongoing reflection and development across a professional career. The analysis of student writings and transcripts of the post-activity interviews we conducted suggests that the consolidating effect is related to the requirement placed on students to reflect upon and critique the interprofessional functioning of a healthcare team they have observed. The critical posture the activity required appeared to enable learners to step outside of their acculturated positions as (developing) insiders in the practice of healthcare and see the interprofessional interactions between team members with fresh eyes. The resulting observations of effective and less effective collaboration appeared to reactivate their prior interprofessional learning, acquired in phases I and II of the IPL curriculum, as well as to connect the observed interactions with their likely consequences for patient and client care and safety. This process accords with Dewey's (1933) theorisation of learning through multiple episodes of "reflection", especially in the face of a newly challenging circumstance (in this case, the assessment piece under study), transforming learned "ideas" into more fundamental "conceptions". It also echoes Kolb's ideas about the formulation of professional identity through the experiential process of professional socialisation (1984).

Provided that its robustness can be relied upon, the technique could serve to overcome some of the weaknesses in the spectrum of summative assessment methods currently available, as identified in the recent *International Consensus Statement on the Assessment of Interprofessional Learning Outcomes* (Rogers et al., 2017b). When combined with other methods such as direct observation of skills and behaviours in practice or simulation, in a programmatic approach to the assessment of IPL outcomes, this method appears to make it possible for educators to assure the community that health professional graduates have acquired the full range of IPCP capabilities when they graduate from our institutions.

The limitations of this work include the activity having been trialled so far only at one institution and in three health professions. It appears to have been equally effective in each of the three professions studied, but the number of participants from exercise physiology, in particular, was small (although it represented the entire cohort of learners in this profession at our institution). We can see no reason to expect that the approach might be less effective in other health professions or other institutional settings, but we hope that other educators might evaluate the use of this task in different contexts in the future. Only medical students volunteered for post-activity interviews, but the findings of these interviews were highly consistent with the findings of analysis of the written work of students in all three professions. The activity does rely on students having the opportunity to participate in, or at least

closely observe, an interprofessional practitioner team during their clinical placement, but current trends in healthcare delivery suggest that clinical attachments *without* such opportunities will become increasingly rare and, indeed, may not meet accreditation standards in some professions. Concerns may also be raised about the potential for learners "faking" their accounts of interprofessional practice values in the context of a summative assessment activity. We have previously shown, however, that the phenomenologically derived analytical methodology employed allows the analyst to gain insights about the authenticity of reported affective learning experiences (Rogers et al., 2017a), which should serve to mitigate this concern.

We found a high level of consistency in our findings across participants and believe that we have described our methodology in sufficient detail as to allow the reader to make their own judgement about their transferability to their own settings. Further, we would certainly recommend that the outcomes of our evaluative method be triangulated with other information, such as that derived from direct observation of learners' collaborative practice behaviour in clinical or simulated settings. Ultimately, the effectiveness of any IPL activity would best be judged by its impact on the welfare and safety of learners' future patients and clients, but the remoteness of these outcomes from the learning activity and the complex web of their causation are likely to render this kind of "gold standard" evaluation logistically impossible in most instances.

## 4.6 Conclusions

Through being placed in a critical-observer posture during conventional clinical placements in practitioner teams, participants in our study were able to achieve consolidation of interprofessional learning outcomes in real healthcare settings, without the logistical challenges inherent in implementing interprofessional service learning (per the Linköping model) for large numbers of learners. We have described and trialled an easily implemented, individually completed, critical assessment activity that appears to consolidate learning effectively in the context of a programmatic approach to IPE. We found it to be feasible and apparently robust for both learning and assessment purposes.

This activity represents a particular type of post-practicum experience that is not organisationally onerous or resource-intensive (beyond the need for marking the written assignments). It appears, nonetheless, to be effective in engendering critical reflection on the part of learners, resulting in consolidation and application to the clinical domain of prior learning about a complex aspect of contemporary professional practice, in this case interprofessional collaboration. Its utilisation as both an assessment and a learning activity provides for efficient use of educational resources and is likely to enhance learner engagement.

## References


Barr, H. (2002). *Interprofessional education: Yesterday, today and tomorrow*. London: UK Centre for the Advancement of Interprofessional Education Retrieved from https://www.unmc.edu/bhecn/_documents/ipe-today-yesterday-tmmw-barr.pdf

Barton, A. J. (2014). Preparing a collaborative, practice-ready workforce. *Journal of Nursing Education, 53*(7), 367–368. https://doi.org/10.3928/01484834-20140619-10

Billett, S. R. (2014). Securing intersubjectivity through interprofessional workplace learning experiences. *Journal of Interprofessional Care, 28*(3), 206–211. https://doi.org/10.3109/13561820.2014.890580

Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *Taxonomy of educational objectives. Vol. 1: Cognitive domain*. New York: McKay.

Braithwaite, J., Clay-Williams, R., Vecellio, E., Marks, D., Hooper, T., Westbrook, M., et al. (2016). The basis of clinical tribalism, hierarchy and stereotyping: A laboratory controlled teamwork experiment. *BMJ Open, 6*, e012467. https://doi.org/10.1136/bmjopen-2016-012467

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Bristol Royal Infirmary Inquiry. (2001). *Learning from Bristol: The report of the public inquiry into children's heart surgery at the Bristol Royal Infirmary 1984–1995*. London: Stationery Office Retrieved from: http://webarchive.nationalarchives.gov.uk/20090811143745/http:/www.bristol-inquiry.org.uk/final_report/the_report.pdf

Centre for the Advancement of Interprofessional Education. (2016). *Statement of purpose*. Retrieved from: https://www.caipe.org/about-us

Clark, P. G. (2009). What would a theory of interprofessional education look like? Some suggestions for developing a theoretical framework for teamwork training. *Journal of Interprofessional Care, 20*(6), 577–589.

Delany, C., & Watkin, D. (2009). A study of critical reflection in health professional education: 'Learning where others are coming from'. *Advances in Health Sciences Education, 14*, 411–429. https://doi.org/10.1007/s10459-008-9128-0

Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. Boston: D.C. Heath Company.

Dye, D. (2005). Enhancing critical reflection of students during a clinical internship using the self--S.O.A.P. note. *Internet Journal of Allied Health Sciences and Practice, 3*(4). Retrieved from http://nsuworks.nova.edu/cgi/viewcontent.cgi?article=1084&context=ijahsp

Exercise & Sports Science Australia. (n.d.). *Accredited Exercise Physiologist Scope of Practice.* Retrieved from: https://www.essa.org.au/wp-content/uploads/2015/09/Scope-of-Practice-for-AEP.pdf

Fairman, J. (2016). Interprofessional learning: An old idea in a new package. *Nursing History Review, 24*, 110–116.

Francis, R. (2013). *Report of the mid Staffordshire NHS foundation trust public inquiry*. London: National Archives Retrieved from http://webarchive.nationalarchives.gov.uk/20150407084231/http://www.midstaffspublicinquiry.com/report

Garling, P. (2008). *Final report of the special commission of inquiry: Acute care in NSW public hospitals*. Sydney, Australia: State of NSW through the Special Commission of Inquiry, Acute Care Services in New South Wales Public Hospitals Retrieved from: http://www.dpc.nsw.gov.au/?a=34194

Green, C. (2014). The making of the interprofessional arena in the United Kingdom: A social and political history. *Journal of Interprofessional Care, 28*(2), 116–122. https://doi.org/10.3109/13561820.2013.867840

Griffith Health Institute for the Development of Education and Scholarship. (2011). *An implementation framework for interprofessional learning at Griffith Health.* Retrieved from: https://www.griffith.edu.au/health/griffith-health/health-ideas/program-interprofessional-education-scholarship

Harden, R. M. (1998). Multiprofessional education: Part 1 – Effective multiprofessional education. *Medical Teacher, 20*(5), 402–408. https://doi.org/10.1080/01421599880472

Health Professions Accreditation Collaborative Forum. (2016). *Workshop report: Collaborating for patient care – Interprofessional learning for interprofessional practice*. Retrieved from: http://d17pp7yftmoi0l.cloudfront.net/wp-content/uploads/2017/04/Forum-Website-Nov-2015.pdf

Hean, S., Craddock, D., Hammick, M., & Hammick, M. (2012). Theoretical insights into interprofessional education: AMEE Guide No. 62. *Medical Teacher, 34*(2), e78–e101.

Horder, J., & McPherson, J. (1996). The centre for the advancement of interprofessional education. *Education for Health: Change in Learning and Practice, 9*(3), 397–400.

Kara, A., Johnson, C. S., Nicley, A., & Niemeier, M. R. (2015). Redesigning inpatient care: Testing the effectiveness of an accountable care team model. *Journal of Hospital Medicine, 10*(12), 773–779. https://doi.org/10.1002/jhm.2432

Kohn, L. T., Corrigan, J. M., & Donaldson, M. S. (Eds.). (2000). *To err is human: Building a safer health system*. Washington, DC: National Academy Press.

Kolb, D. A. (1984). *Experiential learning*. Englewood Cliffs, NJ: Prentice-Hall.

Krathwohl, D., Bloom, B., & Masia, B. (1964). *Handbook II: Affective domain*. New York: David McKay.

Maudsley, G., & Strivens, J. (2000). Promoting professional knowledge, experiential learning and critical thinking for medical students. *Medical Education, 34*, 535–544. https://doi.org/10.1046/j.1365-2923.2000.00632.x

McMurtry, A., Rohse, S., & Kilgour, K. N. (2016). Socio-material perspectives on interprofessional team and collaborative learning. *Medical Education, 50*(2), 169–180.

Morrissey, S., Davidson, G., McAllister, M., McAuliffe, D., McConnell, H., Reddy, P., Henry, J., & Judge K. (2011). *Preparing mental health practitioners for multidisciplinary mental health placements: A distributed leadership approach to cross-disciplinary education and training.* Office of Learning & Teaching. Retrieved from: http://www.olt.gov.au/resource-library?text=morrissey

Morrissey, S., Rogers, G. D., Chan, P. C., Kerkow, E. J., & Desbrow, B. (2014). Establishing 'health professions literacy': Evaluation of a video-based learning package in a three-phase curriculum. In E. James, S. Meyer, L. Bainbridge, M. Brewer, J. Gilbert, R. Gray, F. Jacobsen, & A. Vet (Eds.), *Proceedings of the all together better health VII international Interprofessional conference* (p. 168). Pittsburgh, PA.

O'Keefe, M., Henderson, A., & Chick, R. (2017). Defining a set of common interprofessional learning competencies for health profession students. *Medical Teacher, 39*(5), 463–468. https://doi.org/10.1080/0142159X.2017.1300246

O'Keefe, M., Henderson, A., Jolly, B., McAllister, L., Remedios, L., & Chick, R. (2014). *Harmonising higher education and professional quality assurance processes for the assessment of learning outcomes in health*. Sydney, Australia: Office of Learning and Teaching, Department of Education Retrieved from: http://www.olt.gov.au/system/files/resources/SP10_1856%20_O%27Keefe_Henderson_Report%202014.pdf

Participants at the All Together Better Health 5 International Conference. (2010). *The Sydney interprofessional declaration.* Retrieved from: http://www.cihc.ca/files/The%20Sydney%20Interprofessional%20Declaration.pdf.

Pirrie, A., Wilson, V., Harden, R. M., & Elsegood, J. (1998). Multiprofessional education: Part 2 – Promoting cohesive practice in health care. *Medical Teacher, 20*(5), 409–416. https://doi.org/10.1080/01421599880481

Reeves, S., Palaganas, J., Zierler, B. (2015). Appendix B Synthesis of interprofessional education (IPE) reviews. In Committee on Measuring the Impact of Interprofessional Education on Collaborative Practice and Patient Outcomes; Board on Global Health; Institute of Medicine (Ed.) *Measuring the impact of interprofessional education on collaborative practice and patient outcomes.* Washington, DC: National Academies Press (US). Retrieved from: https://www.ncbi.nlm.nih.gov/books/NBK338360/

Reeves, S., Perrier, L., Goldman, J., Freeth, D., & Zwarenstein, M. (2013). Interprofessional education: Effects on professional practice and healthcare outcomes (update). *Cochrane Database Systematic Reviews,* (3): CD002213. Retrieved from: http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD002213.pub3/pdf

Reeves, S., Zwarenstein, M., Goldman, J., Barr, H., Freeth, D., Koppel, I., et al. (2010). The effectiveness of interprofessional education: Key findings from a new systematic review. *Journal of Interprofessional Care, 24*(3), 230–241. https://doi.org/10.3109/13561820903163405

Resnick, L. B. (1983). Mathematics and science learning: A new conception. *Science, 220*(4596), 477–478. https://doi.org/10.1126/science.220.4596.477

Rogers, G. D., Chan, P. C., & Buys, N. (2012). Early or late? Addressing the question of optimal timing for preregistration IPE through development of a three-phase curriculum. In Y. Ishikawa & H. Watanabe (Eds.), *Exploring new horizons: Diversity and quality in interprofessional education and collaborative practice* (p. 228). Kobe, Japan: Proceedings of the All Together Better Health VII conference Retrieved from: https://static.websitecreator.eu/var/m_f/fd/…/153626-ATBH_2012_Program_book.pdf

Rogers, G. D., & Chesters, J. E. (2014). An orchestral metaphor for interprofessional collaborative practice? *The Clinical Teacher, 11*, 317–318 doi: 10.111/tct.12142.

Rogers, G. D., McConnell, H. W., Jones de Rooy, N., Ellem, F., & Lombard, M. (2014). A randomised controlled trial of extended immersion in multi-method continuing simulation to prepare senior medical students for practice as junior doctors. *BMC Medical Education, 14*, 90. https://doi.org/10.1186/1472-6920-14-90

Rogers, G. D., Mey, A., & Chan, P. C. (2017a). Development of a phenomenologically-derived method to assess affective learning in student journals following impactive educational experiences. *Medical Teacher, 39*(12), 1250–1260. https://doi.org/10.1080/0142159X.2017.1372566

Rogers, G. D., Thistlethwaite, J. E., Anderson, E. S., Abrandt Dahlgren, M., Grymonpre, R., Moran, M., et al. (2017b). International consensus statement on the assessment of interprofessional learning outcomes. *Medical Teacher, 39*(40), 347–359. https://doi.org/10.1080/0142159X.2017.1270441

Smith, J. A. (1996). Beyond the divide between cognition and discourse: Using interpretative phenomenological analysis in health psychology. *Psychology & Health, 11*(2), 261–271. https://doi.org/10.1080/08870449608400256

Smith, J. A., & Osborn, M. (2008). Interpretative phenomenological analysis. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (pp. 53–80). London: Sage.

Teodorczuk, A., Khoo, T. K., Morrissey, S., & Rogers, G. D. (2016). Developing interprofessional education: Putting theory into practice. *The Clinical Teacher, 13*, 7–12. https://doi.org/10.1111/tct.12508

Thistlethwaite, J., Forman, D., Matthews, L. R., Rogers, G. D., Steketee, C., & Yassine, T. (2014). Competencies and frameworks in interprofessional education: A comparative analysis. *Academic Medicine, 89*(6), 869–875. https://doi.org/10.1097/ACM.0000000000000249

van der Vleuten, C. P. M., & Schuwirth, L. W. T. (2005). Assessing professional competence: From methods to programmes. *Medical Education, 39*(3), 309–317. https://doi.org/10.1111/j.1365-2929.2005.02094.x

Wagenaar, T. C. (1993). The capstone course. *Teaching Sociology, 21*(3), 209–214.

Whitehead, C. (2007). The doctor dilemma in interprofessional education and care: How and why will physicians collaborate? *Medical Education, 41*(10), 1010–1016. https://doi.org/10.1111/j.1365-2923.2007.02893.x

Wilhelmsson, M., Pelling, S., Ludvigsson, J., Hammar, M., Dahlgren, L. O., & Faresjo, T. (2009). Twenty years experiences of interprofessional education in Linkoping--groundbreaking and sustainable. *Journal of Interprofessional Care, 23*(2), 121–133. https://doi.org/10.1080/13561820902728984

World Health Organization. (2010). *Framework for action on interprofessional education & collaborative practice*. Retrieved from: http://www.who.int/hrh/resources/framework_action/en/

# Chapter 5
# Clinician Peer Exchange Groups (C-PEGs): Augmenting Medical Students' Learning on Clinical Placement


**Julia Harrison, Elizabeth Molloy, Margaret Bearman, Chee Yan Ting, and Michelle Leech**

## 5.1 Introduction

For fully qualified clinicians, the most potent learning tends to emerge from experience. Expert practitioners often learn from their own workplace experiences, as well as vicariously from the experiences of others through peer interactions. For undergraduate students, learning is usually targeted at passing formal examinations and guided by a documented curriculum. For clinicians, learning is targeted at the daily problems encountered in the workplace. Formalized opportunities for final year medical students to exchange their clinical learning experiences with peers may provide a bridge for them to learn more like a professional.

This chapter describes our experience with a novel peer learning activity, Clinician Peer Exchange Groups (C-PEGs). C-PEGs were introduced as a forum for final year medical students on clinical placement to come together and share learning with their peers. C-PEGs took the form of multiple, peer-only, face-to-face groups of five students with relatively open-ended topics for discussion. These design elements helped to create a safe learning environment for students to share content that mattered to them. The scheduling of C-PEGs sessions throughout a clinical placement meant that students were able to discuss experiences while they were still fresh and this helped to engage the students with the process of reflection in an authentic and natural way. Both the design and evaluation of the C-PEGs activity will be presented in the body of this chapter. The evaluation results

J. Harrison (✉) · C. Y. Ting · M. Leech
Monash University, Melbourne, VIC, Australia
e-mail: julia.harrison@monash.edu

E. Molloy
University of Melbourne, Melbourne, VIC, Australia

M. Bearman
Deakin University, Burwood, VIC, Australia



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_5

demonstrate that C-PEGs have value for learning, peer connection and peer support. The potential value of C-PEGs for final year medical students is heightened when considered as a scaffold for the lifelong learning skills of the reflective practitioner.

Learning through the experiences and challenges of day-to-day practice, as opposed to studying for an exam, is characteristic of learning post-graduation. This peer-based discussion should be introduced prior to graduation so that students (and, in turn, graduates) are primed to optimize their learning from experience. C-PEGs provide a mechanism to achieve this reflection on action. Finally, implications for practice are discussed along with directions for further research to examine the development of reflective capacities in health professional students.

## 5.2 A Personal Introduction from the Teacher (The First Named Author of This Chapter)

I observed a curious phenomenon in the classroom recently. A student had just finished a case presentation to a group of 30 final year medical students. He then flicked up his final slide which contained one word "reflection" and said "I would like to share with you a reflection about this case". At this point, all of the students looked up and the room was silent with anticipation. His reflection was about how a registrar, his senior, had broken the news to their patient that she would need her little toe amputated. The registrar was brief, direct and left in a rush, not giving the patient an opportunity to ask questions. After the registrar left, the patient started to cry at the prospect of losing her little toe. The student did his best to console her. The student knew the registrar to be a kind and compassionate doctor. As he tried to make sense of what had happened, he realized that, for the registrar, who is used to amputating feet and limbs, the loss of a little toe is very minor, but for the patient it was a big deal. The message he learnt from the case was that we cannot assume how a patient will feel about their treatment plan, so we need to ask them. At the conclusion of his sharing of this reflection, colleagues gave him a loud and heartfelt round of applause.

This was a thought-provoking episode for me to witness because at my institution, the students often tell the faculty about their distaste for reflective tasks. There is no surer word than "reflection" to elicit plaintive groans from students. Yet, in the situation described above, every student became noticeably more engaged at the prospect of hearing about another student's reflection and was clearly appreciative of the student sharing his experience and insight. Was this because the reflection was spontaneous, rather than mandated? Perhaps students like to reflect and share their experiences but only if they can choose when and what and how to share things that matter to students or things that have had some impact. Schon has written about triggers for naturally occurring reflection (Schon, 1983), as summarized clearly by Kinsella:

> Schon suggests that, in practice, reflection often begins when a routine response produces a surprise, an unexpected outcome, pleasant or unpleasant. The surprise gets our attention. When intuitive, spontaneous performance yields expected results, then we tend not to think about it; however, when it leads to surprise, we may begin a process of reflection. (Kinsella, 2007)

On the same concept, Boud (personal communication) uses the analogy of "a stone in the shoe", a trigger that demands action or at least consideration (Molloy, Borello, & Epstein, 2013). As educators, how can we target our teaching to these instances of cognitive dissonance that occur for our students while on placement in a timely and meaningful way?

Health profession educators broadly assume that to become successful practitioners, students need to practice being reflective (Mann, Gordon, & MacLeod, 2009). There is a wealth of educational strategies to help develop reflective capacity in our students. These include written reflections on patient cases, learning portfolios, debriefing following simulation experiences and writing about critical incidents. However, are we giving students the opportunity to talk about the "stone in their shoe" in a timely fashion, particularly when they are immersed in the clinical environment and relatively isolated from other medical students? How can we do this without students feeling forced to reflect? That is, for students to become reflective rather than simply engage in reflection when asked.

The origin of Clinician Peer Exchange Groups (C-PEGs) was a teaching challenge. I had just taken on the role of student coordinator at my hospital, and I wanted to improve the weekly face-to-face teaching session for a group of approximately 35 students. The pre-existing session was adequate, with student case presentations and a lecture. However, much of the learning was passive. There was not an obvious sense of community amongst the students as evidenced by their lack of casual conversation during breaks. The students did not seem to know each other very well, and when they were not at the teaching session, they were out on the wards working within their units as the sole medical student or as one of a pair of medical students. Social cohesion amongst the students was not helped by the random allocation of placements for a cohort of 400 students, who only came together once a week for 6 weeks. Cohesion would gradually develop over each 6-week block, as evidenced by a growing need for crowd control measures, and then the students would move to a different hospital, with a new set of students. Based on my prior knowledge of final year medical students and their programme, I knew they were learning a great deal and having interesting and challenging experiences out on the wards. Given the broad mix of clinical units amongst which the students were dispersed, they would also have been learning different things and having unique experiences, yet when they gathered together, there were limited opportunities for talking about their ward-based learning experiences. They mostly sat in rows and listened passively to someone else speaking at the front of the class. It seemed that there was a wealth of experiences that remained unarticulated and learning that was not shared amongst the group. This untapped educational resource material was ripe for use. As a consequence, I wanted to design an activity that would harness and amplify students' own clinical experiences, get them talking to each other, teaching each other, and

encourage the development of reflective capacities that would potentially have a life beyond the scheduled activity.

A key factor influencing the design of this activity was my own experience of the effectiveness of learning from the stories of peers' experiences. This exchange of stories from clinical practice has been a consistent feature of my ongoing education through the continuum of my medical career, from medical student to a practicing emergency physician of 15 years. The most powerful lessons have been the cautionary tales, stories of others' mistakes and near misses. These stories would prompt me to read, find out more and plan what I would do if I were in the same situation. I can still recall many of them, and they have helped steer my practice, particularly in risky patient situations and challenging interpersonal scenarios. The opportunity to exchange experience and knowledge between peers is often formalized for doctors who have completed their specialist training. By way of example, a number of my specialist colleagues attend and greatly value "journal clubs", peer learning sessions with other medical specialists where knowledge and experience is shared in a structured but relaxed setting. If experienced clinicians make time to attend this kind of activity, perhaps the students would value it too. It would also give the students an experience of a useful mode of learning for their future career.

These ideas helped to shape my approach to the teaching challenge. I concluded that the best way to improve the designated teaching slot was to design an educational activity for a group of 35 students during which students could share their ward-based experiences with each other. The aims of the session would be to promote a sense of community, learn from each other, encourage reflection on ward-based experiences and provide students with an opportunity to experience a form of learning that is prevalent amongst qualified doctors – an exchange of learning and experiences between clinician peers.

## 5.3 Designing C-PEGs: Core Assumptions

Designing a purposeful learning encounter for students requires some premises and assumptions, because educational interventions are intentional and directed towards achieving particular goals. As a consequence, it is important to have a set of core assumptions that shape the intended intervention, including how it may be experienced and the way in which it could be evaluated. Based on the literature and personal experiences as learners and clinical teachers, the research team made the following assumptions about students' learning that helped to inform the design of the new activity. Firstly, by the final year of the medical course, students have many pockets of deeper, specialized knowledge as a result of immersion in clinical units where they are involved with particular patient cases and service teams (Billett, 2016). These deep pockets of knowledge are important because, by virtue of students' unique experiences, all students participating in C-PEGs will have knowledge and experience of value to share. This is in contrast to peer learning activities in earlier years of the course where students' learning experiences are more uniform

and the most diligent students have a disproportionate capacity to make valuable contributions.

Other informative assumptions are that students like to interact with each other, are interested in hearing about their peers' experiences on the wards and often feel "safer" to talk about their knowledge gaps or practice deficits with peers (Tai et al. 2014, Tai et al. 2016). Students who are nearing graduation and employment are thirsty for practical tips and any knowledge or artefact that will help them on the job; this is a shift from the pervasive "exam focus" of students in the earlier years (Elizabeth Molloy & Keating, 2011). Practical information for work is exactly the kind of knowledge students will be learning on placement and can contribute during C-PEGs. A focus on work place experiences will help to ensure relevance of the C-PEGs for students nearing graduation. Another core assumption is that students have abilities to teach others, as well as to reflect, to think about the patient's perspective, ethics and culture; but there seems to be little time afforded in the classroom or the workplace setting to support these conversations (Topping & Ehly, 1998). Attempts at teaching domains of practice such as communication, professionalism, ethics and reflective practice, without tight integration with clinical practice, typically fall short (Delaney & Molloy, 2009). C-PEGs would provide a clinically integrated opportunity for students to engage with these topics should they choose to do so.

These assumptions informed key design features of C-PEGs. The placement of C-PEGs within a clinical rotation, where communication, professionalism, and ethical issues are being encountered on a daily basis, was seen as the ideal time to share experiences and reflections on these challenges. The combination of assumptions also indicated that C-PEGs might actually work most effectively without direct facilitation from a teacher. This particular combination of factors is as follows: all students have something to offer by virtue of their unique experience; motivation for learning practical tips is high for final year students; they like to talk to each other; they are capable of teaching each other; and, at least collectively in the final year, they have a broad and sophisticated perspective on patient care.

## 5.4 The Design Challenges

The challenge was to come up with an activity that has a high learning yield for students and low preparation and resource requirements for the teacher. To be effective, the learning would need to be active, with all students contributing in some way. Drawing on the clinical experiences the students have on the wards would help to promote relevance and meaning. In response to this challenge, a version of small group peer discussion was devised that we initially called learning circles, as the activity shared some common properties with reflective small groups known as learning circles in the nursing literature (Hiebert, 1996). After discovering the students consistently found the name "learning circles" to be unpalatable; the name was changed to Clinician Peer Exchange Groups (C-PEGs). C-PEGs involved

dividing the students into groups of five and inviting them to share experiences and new learning from the previous weeks on placement. Small group peer discussion is a well-utilized educational method in the health professions. There were two unique features of this version of small group peer discussion at the undergraduate level. Firstly, there was student membership only in the small groups of five, and secondly, the topics to be shared were largely open-ended and student-determined. Students were asked to share something they have learned, or an experience, from their placement. The shared item could represent a technical fact or an evocative experience. It could be something impersonal or something personal; it just needed to be related to one's learning.

The decision not to have the small groups directly facilitated by a teacher was initially a pragmatic one: a way to have small group learning for seven groups of five students, all at the same time in the one room, with just one teacher. Leaving the students to talk amongst themselves about placement experiences may not represent best practice, but we justified it as a way to achieve small group learning in a cost neutral way. Of note, the teacher still had oversight of the room, and, based on our assumptions about the learners as described earlier, we thought it could potentially work well. The decision to have the discussion topics relatively open-ended was exploratory. We were curious to learn what students would choose to talk about when left to their own devices. It would also give students the freedom to focus the discussions on their most stimulating recent ward experiences. Along with promoting learning within the session, we hoped the activity might influence students' learning behaviour before and after the session. We expected that students would be more conscious of critical incidents and 'learning moments' on the ward that might be of interest to their peers.

Prior to the commencement of the C-PEGs, our main concern was lack of buy-in by the students; sitting in a circle and sharing may not be palatable or comfortable for every student. We also wondered if the lack of direction of the small groups would be a problem, but hoped the students' maturity and considerable experience of small group learning activities and peer learning in the earlier years of the course would provide a sturdy foundation on which to build (Tai, Haines, Canny, & Molloy, 2014).

In summary, two main design challenges helped to shape unique aspects of the C-PEGs activity. Firstly, a desire for small group peer discussions combined with the need to minimize teaching costs leads to consideration of multiple un-facilitated peer-only small groups. However, this risks the groups' abilities to stay focused and engaged, as students are used to looking to the teacher for direction and answers. Secondly, the open-ended nature of discussion topics was a result of wanting to ensure students have the opportunity to speak about what matters to them and also to provide insight for the research team about what it is that students choose to talk about in a formalized setting for peer exchange. The risk with loose discussion topics being that it may add to the challenge of the group remaining on task; sometimes it can be hard to know what to talk about when you can talk about anything. Given these novel aspects of C-PEGs, and their associated risks, it was important to evaluate the introduction of this new activity.

The next section of this chapter will highlight relevant literature that underpins the argument for an activity like C-PEGs. This is followed by a detailed description of the C-PEGs.

## 5.5 How the Literature on Learning Circles Informed C-PEGs Design

Clinical placements provide a rich learning environment for health professional students and, if managed appropriately, can help ease the challenge of transition from medical student to doctor (Billett, 2016) (Brennan et al., 2010). However, clinical placements are costly, both in dollar terms and clinician supervisor time. Teaching at the bedside in the setting of clinical care is considered highly valuable and relevant to work (Benjamin, 2015) but could also be viewed as inefficient because the ratio of supervisor to student is often just one to one. Hence, the imperative for educators to employ efficient and effective strategies to optimize the learning afforded by time immersed in the workplace setting. Such strategies can be implemented beforehand, to prime students; during, to help with engagement and attention focus; and after placement, to help students make meaning of their experiences and reinforce learning. Students from the same course, who have a broad range of unique placement experiences, by virtue of a diversity of placements, are well positioned to be able to share experiences and learn from each other during and immediately after placement. Reflective learning circles (Hiebert, 1996) represent one way to harness the 'teachable moments' experienced by one student and make them available to a larger group for their consideration. Such a strategy can greatly augment learning from placement in a cost-efficient way, as the learning of one student is shared with many students. As such, C-PEGs have the potential to be a potent educational method.

C-PEGs were designed de novo but align well with the established pedagogical approach of learning circles, which manifest in a variety of forms and across numerous fields (Dyck, 2012; Hiebert, 1996). MacGregor described a learning circle as "an informal, cooperative way of learning that is based on natural patterns of human interaction" (MacGregor, 1993). Although C-PEGs are formalized in that the sessions are planned, enacted and evaluated, the exchange between students is relatively informal, relaxed and conversational compared to student contributions that may occur during a lecture or tutorial. Specific features of C-PEGs include i) multiple concurrent circles held in the one large room to accommodate a large number of students; ii) small groups that are peer-led with no direct facilitation, although there is a teacher with oversight of the room; and iii) discussion topics that are relatively open-ended. This description of C-PEGs will be elaborated upon in the next section of this chapter, but has been introduced here to compare and contrast with other versions of learning circles described in the literature.

The term "learning circles" is more prevalent in the nursing education literature than in the medical education literature. Two relevant studies describe learning circle activities (Hiebert, 1996; Newton, 2011). Both studies conducted one group at a time, used a facilitator and focused on critical incidents and/or ethical issues. Students initiated the topics of discussion based on their recent experiences on the ward. The aims were to help bridge the gap between theory and practice and to develop critical thinking skills and/or professionalism. In both studies, the learning circle activities were considered to be valuable by students (Hiebert, 1996; Newton, 2011). C-PEGs and these two iterations of learning circles from the nursing literature all share the same core of peer group discussion about recent clinical experiences; the main points of difference relate to the scope of invited discussion items and the presence of a senior facilitator.

There is scant literature regarding learning circles with open-ended experience-based discussion topics for medical students. Two relevant studies reviewed a small trial of Balint groups (Sackin, 1994; Torppa, Makkonen, Mårtenson, & Pitkälä, 2008). Balint groups are a face-to-face, peer-led, small group professional development activity conducted in many countries around the world. Traditionally, Balint groups are for general practitioners, and they restrict their discussion to patient cases that caused distress or puzzlement with a view to improving the doctor-patient relationship (Balint, Courtenay, Elder, Hull, & Paul, 1993). These two studies involving medical students both found that the students wanted to discuss a greater breadth of issues than just cases and their interactions with patients. For example, students wanted to talk about experiences relating to interactions with colleagues, professional identity and the clinical environment. During C-PEGs, the medical students are relatively free to discuss whatever they are most interested in, whether that be particular patient cases, interactions with colleagues or their role within the workplace. This study will help to illuminate what students most want to talk about when given a scheduled opportunity for peer discussion about recent clinical experiences.

To the best of our knowledge, there are no published studies that have examined learning circles for medical students without direct facilitation and the running of concurrent learning circles to accommodate larger groups, as is the structure with C-PEGs. Sackin has identified the importance of a trained facilitator to keep medical students focused on the task (Sackin, 1994). This is consistent with the work of Steinert, who demonstrated that preclinical undergraduate students identified an effective small group tutor as a key element of effective small group learning (Steinert, 2004). A detailed study of a programme similar to C-PEGs, with weekly peer exchange of learning and reflections on placement, but with an experienced physician facilitator and consistent membership of small groups, noted the value of the facilitator in validating the students' experiences and feelings, role modelling and guiding learning. However, the authors surmised that faculty presence may have inhibited open discussion at times (Chou et al., 2011). Self-facilitation may not represent ideal practice at the undergraduate level, but it corresponds with the reality of clinical education and may have some theoretically desirable qualities that stem from students not being under the eye of a tutor (Tai et al. 2014). This balance of

losses and gains because of the absence of direct facilitation of the small groups in C-PEGs will be explored further in the discussion section of this chapter, where we argue for the benefits of a peer-only small group.

## 5.6 How the Literature on Peer Learning Informed C-PEGs Design

C-PEGs are a same-level peer-assisted learning activity. A frequently cited definition of peer-assisted learning is "people from similar social groupings, who are not professional teachers, helping each other to learn and by so doing, learning themselves" (Topping & Ehly, 1998). Same-level peer-assisted learning, as opposed to near-level, indicates that students are at the same stage of a given course of study. A recent systematic review of same-level peer-assisted learning in medical clinical placements (Tai, Molloy, Haines, & Canny, 2016) found numerous benefits for students participating in peer discussion. These benefits include a greater capacity to reflect on clinical experiences and deal with emotions after participating in group discussions; greater empathy for, and rapport with, fellow students through the sharing of experience in peer discussion groups; enhanced ability to navigate placements by learning from other students' successes and failures; and feeling safe and supported in their learning because there was less reason to feel embarrassed in the presence of peers, compared to in front of a teacher, and students were generally friendly and caring towards each other. These benefits help to justify the implementation of a same-level, discussion-based learning activity like C-PEGs.

Boud explains that the origin of some of the benefits of peer learning stem from the fact that peers share a common experience and a common way of communicating and hence are less judgemental, as described in this quote:

> The advantage in learning from people we know is that they are, or have been, in a similar situation to ourselves. They have faced the same challenges we have in the same context. They talk to us in our own language and we can ask them what may appear, in other situations to be silly questions. (Boud, Cohen, & Sampson, 2001)

Boud also makes the point that peer learning occurs naturally and often, both in day-to-day life and at university (Boud et al., 2001). This is part of human nature; we are curious, social beings who often like to work together and help each other. This leads to the question: Why would a teacher need to schedule an opportunity for students to exchange learning when students are probably already engaging in this kind of activity informally, at a time convenient to them and in a manner of their choosing? This is an important question to ponder, as today's students are time jealous and do not like to be forced to spend time on what they can do more efficiently in their own time if they choose to. Aspects of Boud's views on this question are encapsulated in the following quote:

> Formalising the informal is not intended to give teachers a more prominent or controlling role in informal learning, but to realise the potential benefits of peer learning so that all

> students can benefit from it, not just those who are socially adept or best networked. (Boud et al., 2001)

The students participating in the C-PEGs activity as part of this study probably had limited opportunities to informally learn from and with each other because they were usually not in close physical proximity to other students while on the wards, and friendship groups were unlikely to be placed together at one hospital at any one time given the large cohort of students to be placed.

C-PEGs have many anticipated benefits, and these are supported by the literature on learning circles and same-level peer-assisted learning, but are C-PEGs a worthwhile use of students' valuable time? The C-PEGs evaluation described later in this chapter explores the students' perceptions about the value of the activity. The next section describes C-PEGs in greater detail.

## 5.7 A Description of C-PEGs

This section provides a description of the context in which C-PEGs was delivered during the evaluation period and an overview of how individual C-PEGs sessions were conducted.

### *5.7.1 Setting and Duration*

The setting for the project was a clinical school within a large community hospital where a maximum of 35 final year medical students were dispersed on a variety of 6-week clinical placements at one time. These placement settings included general and specialty surgical units, general and specialty medical units, intensive care, aged care, rehabilitation and the emergency department. The students were expected to be active members of the medical teams with which they were attached, with a focus on learning, preparing for work as a junior doctor and contributing to patient care. The project that sought to illuminate and evaluate students' experiences of C-PEGs spanned 18 weeks, disposed as three 6-week blocks. A total of 105 students had the opportunity to participate in up to three fortnightly C-PEGs sessions each. Attendance at the teaching sessions was encouraged, but not enforced, because students sometimes had valid competing educational opportunities on their wards which they did not want to miss. On average, each C-PEGs session was attended by 25 students. Nine C-PEGs sessions were conducted, three each with three different groups of 35 students.

### 5.7.2 Description of an Individual C-PEGs Session

C-PEGs were a 30–40 min activity in which students were divided into groups of five and given half an hour to share an experience and/or a particular learning point from the previous couple of weeks on the ward. After this, time permitting, the teacher would invite one or two groups to share an item from their small group with the whole group of about 25 students, with some commentary from the teacher. The main purpose of this sharing with the large group at the end was to further amplify learning, so the whole group of about 25 could benefit from particular students' offerings, rather than just four other students. A secondary purpose was to satisfy students' curiosity about what other groups had discussed. Groups tended to nominate the student who had the most interesting or useful offering to share with the entire group. Presumably, this vote of confidence from peers made the job of sharing with the whole group less daunting.

The room was large enough to comfortably contain five or six groups of five students sitting in circles. Students mostly moved chairs around to create the configuration. However, some students preferred to sit in groups on the floor. The teacher sat alone and off to the side, within earshot of one or two groups, but not actively listening or participating. Students were instructed to share an experience or something they had learned in recent weeks. The content for discussion could be clinical/technical or behavioural/social. They were not steered one way or the other. They were given a list of discussion triggers to help stimulate thoughts for an item to share (see Table 5.1).

A range of practical strategies was employed to ensure that C-PEGs met their aims of students sharing their learning and their evaluation of experiences through a collective process. These strategies included explanation, provision of examples, clarification and foreshadowing to encourage students to share. Prior to the first session, the teacher explained and provided a rationale for the C-PEGs activity, affirmed the value of the students' unique experiences and emphasized that their different clinical experiences would mean that what they shared was likely to be of interest to their peers and normalized the group process using "journal club" as an example.

**Table 5.1** C-PEGs discussion triggers

| Share an experience and/or a particular learning point from the previous weeks on placement<br>The following triggers may help you think of something: |
|---|
| A case |
| Something you were taught |
| A mistake you (or someone else) made and what you would do differently next time if you had the chance |
| Your observations of the work done by your unit |
| Something that surprised, pleased or disappointed you |
| A brief summary of a common clinical problem on your unit |
| A description of doing something for the first time. What was it? How did it go? What did you learn? |
| A challenging situation |

Finally, the teacher provided the list of discussion triggers (Table 5.1) and shared some recent authentic examples of her own learning from clinical practice.

At the end of each session, students were asked to make notes on the following four questions: "What topic did you choose to raise with your group?" "What was the most useful thing you learned from today's session?" "Is there anything you would like to learn more about as a result of today's session, if so, what?" and "Is there anything new that you might put into practice on the ward as a result of today's discussion, if so, what is it?" These notes were primarily designed to promote learning by asking students to evaluate what was discussed that was new to them, to consider what knowledge gaps needed addressing and to visualize how this learning could be transferred to their own practice. A secondary purpose for these notes was as a form of data for the project evaluation.

To summarize, this section has described the implementation of a C-PEGs session, covering how students are primed for the session, the room set-up, the focus of discussion including triggers, a mechanism for the small groups to share some items with the large group and the note-making that acts as a conclusion for the session. The next section describes our approach to the evaluation of C-PEGs.

## 5.8 Evaluation of C-PEGs

The primary aim of the evaluation was to explore student and teacher perceptions of the C-PEGs activity, with a particular focus on its value and how it might be improved. The secondary aim was to learn more about what it is that the students chose to talk about during the sessions and which discussion topics they found most useful for their practice. Ethics approval was granted by the Monash University Human Research Ethics Committee, project reference number 2016 7627 7456.

Data were collected from five different sources so as to provide a broad picture of the impact of the C-PEGs initiative. Multiple data sources also allowed for triangulation of data which added to the clarity of the project findings. Both qualitative and quantitative data were collected. The first data source was student notes which were collected from each student at the end of each C-PEGs session. These provided a large volume of detailed information about the content of students' discussions, what students were learning, what they would like to learn more about and how they might use the new knowledge. The second data source was C-PEGs evaluation forms which were collected at the end of each 6-week placement after students had participated in two or three C-PEGs sessions. They contained Likert scale and free text responses to closed- and open-ended questions, respectively. The third data source was clinical placement evaluation forms. These were also collected at the end of each 6-week placement and allowed for the comparison of the value of the C-PEGs activity with the other teaching modalities being delivered during the placement. The fourth source of data was facilitator's notes which were made at the conclusion of each C-PEGs session and were designed to capture the teacher's impressions of the sessions. The fifth source of data was the transcription of three

focus groups, recorded at the conclusion of each of the three 6-week placements. This focus group data has not been included in the evaluation for this chapter and will be presented in detail in a separate study.

Analysis methods include descriptive statistics of quantitative data and thematic analysis of qualitative data. Free-text comments on the C-PEGs evaluation form were organized into categories by two members of the research team, who then developed themes based on the content and nature of the categories. A similar process was used to analyze the student notes. However, given the more straightforward nature of responses, only one member of the research team categorized, organized and summarized this data.

Efforts were made to minimize students feeling pressured to provide favourable feedback and to complete the forms by ensuring both evaluation forms and student notes could be completed and submitted anonymously. Only students present at the end of each final face-to-face teaching session were asked to complete the evaluation forms. This convenience sample represented just over two thirds of the total number of students who participated in one or more C-PEGs sessions. Of the students invited to complete the evaluation forms, 100% (n = 74) completed the C-PEGs evaluation form, and 96% (n = 71) completed the clinical placement evaluation form. This represents a very high response rate of a large representative sample of students for the evaluation forms. A total of 209 student notes were submitted out of a possible 222. At least 94% (n = 196) of students responded to each of the four questions on the student notes form. This provided a large and representative volume of data about what the students talked about and learnt during the C-PEGs.

### *5.8.1 Evaluation Findings*

The evaluation findings are presented under two headings: i) perceptions of value and ii) evidence of learning. Note that there is some overlap of content between these two sections. Data for the perceptions of value section has three sources: the C-PEGs evaluation form, the end of rotation evaluation form and the facilitator's notes. Data for the evidence of learning section also comes from the C-PEGs evaluation form, as well as the student notes. The implications of these findings will be discussed in detail in the chapter section titled Implications for Health Professions' Education, but first the results will be presented.

### *5.8.2 Perceptions of Value*

Table 5.2 shows the students' responses to the Likert scale statements on the clinical placement evaluation form. This allows a comparison to be made between the students' perceptions of the utility of C-PEGs and the perceived utility of the other educational activities they participated in during the placement. A five-point Likert

**Table 5.2** Likert responses comparing perceived value of four different educational activities as per the clinical placement evaluation form

| Statement | Agree/ strongly agree | Neither agree nor disagree | Disagree/ strongly disagree | Number of responses |
|---|---|---|---|---|
| The student case presentations have been useful | 95% | 5% | 0 | 71 |
| Clinical placement time has been useful | 93% | 7% | 0 | 71 |
| The lectures have been useful | 86% | 14% | 0 | 66 |
| The C-PEGs have been useful | 64% | 27% | 9% | 70 |

scale was used on the evaluation form; however, for clarity, in Table 5.2, "strongly agree" and "agree" have been aggregated, as have "strongly disagree" and "disagree". The majority of students (64%) agreed that the C-PEGs sessions were useful, 27% were equivocal and 9% thought the C-PEGs sessions were not useful. In comparison with the other educational activities offered during placement, students rated the C-PEGs activity as less useful than the student case presentations, clinical immersion and lecture series. It should be noted that the learning activities used as a point of reference were all of high quality. For example, at the same time that C-PEGs was introduced, the format for the case presentations was significantly improved. Students went to great lengths to prepare educational case presentations for their peers and were tutored on how to make their sessions more interactive, engaging and effective. Each presentation was followed by large group discussion led by the facilitator, where important points were emphasized and students were questioned on related and relevant material. On the last teaching day of each placement, students participated in a written quiz about the content covered in the student presentations. So, it would have been clear for students to see the large amount of important material covered by these presentations. Although C-PEGs were considered the least useful activity out of four, it was still considered valuable by the majority of students, and the three activities that were rated as more useful were all of high quality and familiar to the students. Of note, C-PEGs was the only activity out of four where some students (9%) disagreed that it was useful. This suggests that C-PEGs does not suit a small proportion of students.

Although C-PEGs rated as the least useful of the four educational modalities on the clinical placement evaluation form, there were many positive responses about C-PEGs on the C-PEGs evaluation form as displayed in Table 5.3. This table shows the Likert scale responses to seven statements from the C-PEGs evaluation form. Once again, "strongly agree" and "agree" have been aggregated, as have "disagree" and "strongly disagree". Eighty-five percent of students agreed that the C-PEGs activity was enjoyable, 86% agreed that the C-PEGs activity was interesting, 64% agreed C-PEGs was worthwhile, 81% indicated they learned new things, 56%

**Table 5.3** Responses to C-PEGs evaluation form Likert scale questions

| Statement | Strongly agree/agree | Neither agree nor disagree | Disagree/ strongly disagree | Number of students |
|---|---|---|---|---|
| The C-PEGs were enjoyable | 85% | 14% | 1% | 74 |
| The C-PEGs were interesting | 86% | 13% | 1% | 74 |
| The C-PEGs were worthwhile | 64% | 33% | 3% | 74 |
| I learned new material in the C-PEGs | 81% | 17% | 2% | 74 |
| I found it difficult to think of things to talk about | 31% | 33% | 36% | 74 |
| I was able to incorporate some of the learning into my clinical practice | 55% | 38% | 7% | 72 |
| This activity should continue for future groups of final year students | 64% | 33% | 3% | 73 |

reported that they had incorporated learning from the sessions into their clinical practice, and the majority of students (64%) concluded the activity should be continued for future groups of students. Only 3% proposed that it should be discontinued. Approximately a third of students agreed that it was difficult to think of things to talk about.

Note that the proportion of students who rated C-PEGs as "useful" on the clinical placement evaluation survey (64%) was the same as the proportion of students who rated the activity as "worthwhile" on the C-PEGs evaluation form (64%). This indicates that about a third of students are unsure if the value of C-PEGs justifies the time and effort expended on it. Both of these parameters, "useful" and "worthwhile", will likely be influenced by students' pre-existing notions of what makes for an effective teaching session. Students may not be used to factoring in benefits of a social or emotional nature when evaluating the worth or utility of an educational session. However, these elements are more likely to be included when considering how enjoyable a session was. More students (85%) agreed that C-PEGs was enjoyable.

The C-PEGs evaluation form invited students to comment on what they did and did not like about the activity. Table 5.4 displays a summary of the data gathered in response to the question: "What did you like about the C-PEGs activity, and why?" This data has been grouped according to the three most prominent themes: (1) learning, with the subthemes of sharing of knowledge and experience, interesting content and opportunity for reflection; (2) connection, which represents engagement with peers; and (3) peer support, with the subthemes of safe learning environment, normalization of the student experience and opportunity to debrief with peers. Table 5.4 includes an illustrative quote for each subtheme. The most frequently reported valued aspect of the sessions was the opportunity to meet and share knowledge and ward experiences with peers.

**Table 5.4** What students liked about the C-PEGs

| Theme | Subtheme | Illustrative quote |
|---|---|---|
| Learning | Through sharing of knowledge and experience | "Learnt from the mistakes of others"<br>"Colleagues sharing their experience from a different unit I have not experienced" |
| | Useful and interesting content | "Good stories came in"<br>"often relevant and interesting things to learn" |
| | Opportunity for reflection | "It was a good opportunity to reflect on my rotation and what I had actually learnt"<br>"We rarely get a chance to reflect on challenging/ difficult experiences and I think this is an essential process for learning" |
| Connection | Engagement with peers | "Forced fellowship"<br>"Talking to new people that I otherwise would not have interacted with""Engage with other students" |
| Peer support | Safe learning environment | "Judgement free zone to talk"<br>"Learning from peers makes things so much less intimidating" |
| | Normalization of the student experience | "Normalizes the student experience" |
| | Debriefing | "Discussion and support from peers"<br>"getting to debrief about the week is good" |

**Table 5.5** What students did not like about the C-PEGs

| Most frequent category of response to the question: "What didn't you like about C-PEGs and why?" | Illustrative quotes |
|---|---|
| Difficulty thinking of items to talk about | "Sometimes difficult to come up with things to share" |
| Lack of structure | "Occasionally the circles derailed and lost focus"<br>"Too unstructured. No-one prepared materials" |
| Lack of engagement | "It was hit and miss what fellow students chose to share. The quality depended on how motivated the fellow student was" |
| Time issues | "Very little time allocated"<br>"A bit time consuming"<br>"Felt a little like wasted time" |

Students were also asked what they did not like about C-PEGs. Table 5.5 presents a summary of the data gathered in response to the question: "What did you not like about the C-PEGs activity, and why?" This data has been grouped into four prominent themes: (1) difficulty thinking of items to talk about, (2) lack of structure, (3) lack of engagement and (4) issues of time, both too much and not enough. There was a diversity of opinion about the impact of structure, with some students suggesting a clinical facilitator and more steps to follow in the sessions would help, and others identifying the open structure as a key strength. The majority of students thought the C-PEGs should not be facilitated by a teacher (54%). Approximately 20% of stu-

dents felt that nominating a student to chair would be beneficial (21%), and a quarter would have preferred a clinician educator to facilitate the small groups (25%).

To an observing facilitator, as per the facilitator's notes, the students seemed to have no trouble finding things to talk about. The noise level would rise instantly at the start of the session, and it was often hard to get the students to finish talking at the end. There was lots of smiling and laughter at times. The body language was generally positive too, with students leaning in and obviously interested and engaged. On the surface it looked really positive. There were occasional instances of group discussion petering out, but these were infrequent and brief.

In summary, most students enjoyed C-PEGs and perceived it as a useful activity. However, a minority of students did not find the sessions worthwhile. Students liked the learning, the connection with their peers and the normalization of student experience afforded by C-PEGs. Common criticisms of the C-PEGs included its lack of structure, difficulty knowing what to talk about, lack of engagement and issues around time.

### *5.8.3 Evidence of Learning*

In this section, we present evaluation results pertaining to perceptions of learning, self-reports of changes in learning behaviour, self-reports of transfer of learning to the ward and data about the breadth of topics discussed. The data for this section comes from the student notes and the C-PEGs evaluation form.

Analysis of the student notes demonstrates that there was a vast and rich array of highly practical, relevant and important information shared between students during the C-PEGs. Table 5.6 lists the various categories of discussion topic; each category has one or more example quotes. There was an even mix of medical/technical content and non-technical content. Clinical cases were frequently shared, either because the conditions were relatively rare, a mistake had been made or there was something confronting about the case such as a poor patient outcome, end-of-life issues, futile care, refusal of medical treatment, patient complaint or patients with a challenging demeanour. Many cases acted as a cautionary tale with a strong take-home message. Many mistakes were shared, mistakes of others and their own. Other categories included hospital systems, sociocultural aspects of the workplace and being a student and patient perspectives and attitudes towards patients.

As per the C-PEGs survey evaluation data, students' most valued form of contribution from others was the description of an interesting case, anecdote or mistake, complete with a clear learning point. They also appreciated practical tips, or heuristics, relevant to their current and future work as a junior doctor.

As shown above in Table 5.3, Likert scale data demonstrates that the majority of students reported the sessions to be useful and beneficial for learning. The student notes data triangulate with this indirect evidence of learning, with hundreds of student quotes describing what they had learned. The next question for consideration is whether the activity had any effect on learning beyond the half-hour C-PEGs ses-

**Table 5.6** Categories of discussion topic

| Topic of learning theme | Example quotes |
|---|---|
| Medical/technical knowledge | "Complications of prolonged anaesthesia" |
| Medical/technical practical tips | "Always check equipment if someone has set up for you" |
| Non-technical practical tips | "While making a referral, pause after the opening spiel to allow time for questions" |
| Cautionary tales with a message | "Never assume! Always clarify – Even in the face of perceived barriers e.g. a too busy consultant"<br>"Always double check the operative side"<br>"Examine every patient and rule out red flags, always!" |
| Exploring mistakes and errors | "Doctors are just human and can make errors in judgement"<br>"Bonded over mistakes on the wards and reflecting on the learning experience" |
| Hospital systems | "Phone interpreters are very accessible" |
| Sociocultural aspects of the workplace and being a student | "Learning how to say 'no' to some work that is given to you if you feel it is not suitable"<br>"Hierarchies" |
| Patient perspective and attitudes towards patients | "Empathy for patients"<br>"Every person deserves our best care – Even IVDUs (intravenous drug users) and criminals" |

sions. In the C-PEGs evaluation form, 55% of students agreed that they had been able to incorporate some of the learning from C-PEGs into their clinical practice, whereas most other students were neutral. In the free text section of the form, some students said that they had not done so yet, but given more time and opportunity they would. Examples of learning from C-PEGs being transferred to students' practice on the wards, as reported by students, included the following: better perspective of what was happening in the wards; greater ability to avoid errors as a result of awareness of hazards; more vigilance and a reluctance to repeat the mistakes of others; improved clinical skills, particularly procedural skills; and improved referrals to other units after learning from students on other units about what makes a good referral for that unit. In the C-PEGs evaluation form, students were also asked if the sessions influenced learning behaviours in any way. Many students responded positively to this question. Table 5.7 lists the most frequently reported responses to the following question in the student notes: "Did the C-PEGs influence your learning behaviours in any way? If so, please explain". Each item in the list has one or more accompanying illustrative quotes. The most frequently reported behavioural changes included shifts in attentional focus on the ward, reflection, reading up before and after sessions and a greater awareness of hazards and efforts to avoid repeating other's mistakes.

In response to the question on the student notes, "What was the most useful thing you learned from today's session?", most students wrote a discussion topic similar to that listed in Table 5.6. However, some students responded by reporting what they had learned about learning itself. Table 5.8 contains this detail, along with a few illustrative quotes. For example, some students reported that they learned the value

**Table 5.7** Did the C-PEGs influence your learning behaviours in any way? If so, please explain

| Most frequent responses | Illustrative quotes |
|---|---|
| Attentional focus on the ward | "Yes, I started paying more attention in the wards as there are important things to learn even from boring routine tasks in the ward" |
| Reflection | "Think more about critical issues that commonly occur on the wards"<br>"Yes. Critical and constructive thinking prior to sessions"<br>"Yes. Thought/reflected on interesting cases" |
| Reading | "Reading up on things before session"<br>"Went home and did more reading"<br>"Jogged memory of things we should refresh" |
| Awareness and avoidance of hazards | "Being more mindful of others' mistakes" |

**Table 5.8** Most useful thing you learned from today's session

| Learning about learning | Illustrative quotes |
|---|---|
| Value of learning through peer exchange | "To acknowledge each others' gap in learning and work together to fix it"<br>"Good to reflect on each others' experience" |
| Value of learning from errors | "Sharing our mistakes is useful to learn and remember when we are in the same situation"<br>"Learn from yours and others' mistakes" |

of learning through peer exchange, and other students noted the educational benefit of talking about errors. Two students stated they would do "more peer sharing" as a result of the session. Another student learned "not to lose heart, keep learning". Although "learning about learning" was not a frequent category of response, it does imply long-term positive consequences for the individuals. These comments also highlight that not all students were aware of the benefits of learning from peer exchange prior to their C-PEGs experience.

The evidence for learning from C-PEGs is strong. Not only have students learned a broad range of highly relevant material to help them on the job; a majority of students report that they have transferred some of this learning to their practice on the wards and that the C-PEGs have had a positive influence on their learning behaviours.

## 5.9 Implications for Health Professions Education

It is encouraging that the majority of students valued and enjoyed the C-PEGs sessions and there is scope for improvement for the next iteration of the activity. However, a few students did not find C-PEGs worthwhile, and a few more were unsure about its value. This is not a surprising result for several reasons: C-PEGs is an activity that requires effort, the outcomes are unclear at the start of each

discussion, and the students are fully responsible for how useful the sessions are. Furthermore, the most valuable learning requires a degree of private and public vulnerability, and the social nature of it may be challenging for more introverted students. It is possible that the current generation of medical students would feel more comfortable sharing insights and learning in a digital setting rather than face-to-face (Kori, Pedaste, Leijen, & Mäeots, 2014). However, the practice of modern medicine is still largely conducted in a face-to-face context, and often the subject matter is challenging and involves communicating with and educating others, usually patients and their families. So, despite some students' reluctance, the face-to-face format of C-PEGs aligns very well with the usual mode of communication required of a doctor. It may be that C-PEGs is most instructive for those students least comfortable with it.

This evaluation suggests that C-PEGs was mostly well received by students and has sufficient educational value to warrant an expansion of the programme for final year medical students from our institution who are out on placement. However, what have we learned from this project that may have broader implications for educators in the health professions? In this section we will discuss three aspects of the project findings that potentially have more broad applicability. These are: the unique design elements that contributed to the success of C-PEGs; peer discussion of cautionary tales and learning from error; and the development of reflective practitioners.

### *5.9.1 How the Design Elements of C-PEGs Promote Learning*

There was a diversity of opinion amongst the students about the adequacy of structure and direction of the C-PEGs sessions. Two design elements contributed to the relatively loose structure: the student-only nature of the small groups and the openness of the discussion topics.

The student-only composition of the C-PEGs started as a compromise to minimize costs. However, our results and the literature indirectly suggest that this may be a key element of the effectiveness of C-PEGs. The absence of a teacher in the small groups probably lowered the threshold for what students were comfortable to reveal; there would have been less pressure to be impressive (Tai et al., 2016). It is speculated that the students felt more comfortable to speak honestly and reveal their areas of knowledge deficit and/or mistakes without a teacher listening in. The teacher did, however, prime students beforehand in various ways, including role modelling, for honest conversation. No doubt it was more fun and relaxed without a teacher. The positive and affirming benefits of peer socialization, cited as a key benefit, would likely be diluted with a teacher directly present in the mix. These benefits need to be balanced with the lack of direction that can result in the absence of a non-peer facilitator. However, this negative corollary can be mitigated in other

ways without having to dilute the benefits of a peer-only discussion. Not having a teacher present is at odds with students' general perceptions of effective formal education. However, once the students leave university and enter the clinical environment as doctors, they will have greater responsibility for their own learning, much of which will come from how they learn from their daily workplace experiences and from conversation with their peers, not from a teacher at the front of a classroom. In summary, the absence of a facilitator within the small groups is a key design element of C-PEGs and probably results in less inhibition, greater capacity for peer support and the fostering of learning from experience in the absence of a teacher, an important lifelong approach to learning.

The positioning of the discussion topics as open-ended was chosen for two reasons: firstly, for the researchers to learn what the students choose to discuss and, secondly, to provide a forum for students to talk about their most resonant recent ward experiences, an opportunity to talk about the "stone in their shoe", whatever that may be. This open-ended construct is a key element of the C-PEGs' effectiveness because it ensures that what the students discuss is meaningful and contextually timely for them. In addition, it allows a forum for reflection with peers without the pressure to share anything of a personal nature if that is the student's preference. They could opt to explain a fact or share a confronting experience. This choice probably helped to create a safe learning environment. There was no pressure to reveal one's self, but they were free to do so if they wanted. Consequently, any offerings of this nature were likely to be more authentic than the reflections that students are sometimes required to produce on demand. A problem associated with this open-ended approach, as indicated by the data, is that some students had difficulty thinking of items to share. A narrower focus might have made it easier for students to recall relevant experiences. However, this would be at the expense of addressing what matters most to students at that time.

The design features that contribute to the C-PEG's uniqueness and effectiveness, such as the face-to-face format, peer-only groups and open-ended topics, come at the expense of a firm structure, clear direction and some students' preferences for learning format. Rather than abandon the unique elements, our approach is to make minor modifications that ameliorate the negative effects of the mostly positive design elements. These modifications would be aimed at providing students with the option of more guidance on how to conduct the sessions and the provision of strategies to assist students with topic identification.

It is worth emphasizing another key design element for the effectiveness of C-PEGs. The students who participated in this study *all* had something valuable to offer to their peers. They were in the final year of their medical degree with a depth of knowledge and variety of experience. This may not be the case for students in earlier years, who have had less opportunities to differentiate and are more focused on passing exams than learning how to survive in the workplace.

### *5.9.2 Cautionary Tales and Learning from Errors*

Evaluation data demonstrate that a vast array of discussion topics were raised by the students in the C-PEGs. A striking feature of these data was the prevalence and impact of cautionary tales. Students were surprisingly candid in their sharing of difficult encounters and were prepared to identify their own shortcomings, mistakes and discomfort. The students' capacity to speak constructively about errors, their own and others', may be partly due to their prior and intercurrent formal education in the area of patient safety (Marshall, Harrison, & Flanagan, 2008). Topics such as why errors occur, institutional and personal responses to error, the learning curve, workplace culture, diagnostic error, effective teamwork and communication, speaking up and human factors may have helped the students to tune into these classic problem areas of modern medicine and given them a framework to think constructively about suboptimal performance in the workplace.

Learning from mistakes is a common and well-accepted educational strategy for clinicians at both an individual and institutional level. The patient safety movement of recent decades has fuelled much progress in this area (Donaldson, Corrigan, & Kohn, 2000). A longstanding example of an institutional approach to learning from error is the practice of formal morbidity and mortality meetings, where suboptimal patient outcomes are discussed as a means to improve care for future patients. It is recognized that these meetings are of a highly sensitive nature and need to be chaired with care because it is challenging to acknowledge and learn from one's shortcomings (Orlander, Barber, & Fincke, 2002).

It is imperative to consider how undergraduate health professionals are prepared to learn from error. Elements of preparation should probably include an understanding of why errors occur, a growth mind-set (Dweck, 2017; Klein, Delany, Fischer, Smallwood, & Trumble, 2017), experience of reflective practice, positive role modelling and some practice while still a student, when the stakes are relatively low. If students are not well prepared to acknowledge and learn from their errors, there is a risk that maladaptive responses to error may result. These may take the form of blaming others, which results in a failure to learn and improve and a defensive workplace culture, or the development of a disproportionately negative view about their capability, which can have serious consequences for mental health and career choices. C-PEGs provide an opportunity for students to practice learning from error, mostly the errors of others. Some students felt comfortable enough to talk about their own errors, and all students were reminded that errors are common and that they are not alone in the challenges of being a student.

There is a related broader educational question of how we assist students and trainees to navigate the tension between the need to be impressive and the need to acknowledge their shortcomings, both privately and publicly. The need to be impressive stems from the human desire to maintain face, to achieve well in assessments and elevate career prospects. However, acknowledgement of shortcomings is required to learn and develop expertise (Boud et al., 2001), to teach and mentor others (Bearman & Molloy, 2017) and to promote patient safety (Donaldson et al.,

2000). If we can help students and trainees with this tension, we may be able to significantly enhance the capacity for learning in the current system. C-PEGs is a forum where students can experiment with being "a little bit vulnerable" in front of fellow students and experience the benefits that come from sharing their learning experiences with peers. Equally, if the foundations of professionalism are built on "the ability to support the learning of self and others" (Wilkinson, Wade, & Knock, 2009), then C-PEGs could be part of the educational strategy to promote professionalism.

More research is needed to explore the characteristics of learning environments that help students to feel comfortable to share their mistakes with peers. How can they be supported, and what benefits could this style of education have on the culture in medicine? In large and competitive cohorts of medical students, the utility of such an approach to lower the threshold to reveal academic or other vulnerabilities could have far-reaching benefits for students' wellbeing and learning. A limitation of this study was that we relied on students' self-report of their experience of C-PEGS. Future studies could adopt an observational approach to further understand how students are prepared to be vulnerable in front of their peers and the types of linguistic mechanisms or environmental conditions that facilitate open exchanges between same-level peers on clinical placement. A complication of course with an ethnographic study design is that the presence of a researcher or video camera may interfere with the psychological safety required for open disclosure within the groups.

### *5.9.3 The Development of Reflective Practitioners*

To reap the learning benefits of immersion in the workplace while on placement, students need to be able to reflect. This requires effortful thinking about new and challenging experiences resulting in greater insight and understanding and, hopefully, changes in practice (Schon, 1987). A systematic review on reflection and reflective practice in health profession education concluded that reflection seemed to be able to be developed given the right conditions. These conditions included an authentic context, a safe and supportive atmosphere, small group discussion, accommodation for individual differences in learning style, free expression of opinions, perception of relevance, time to reflect and conducive behaviour of mentors and supervisors (Mann, Gordon, & MacLeod, 2007). C-PEGs neatly satisfy a number of these conditions, in particular, an authentic context and a safe and supportive atmosphere. With C-PEGs, authenticity is achieved in two main ways. Firstly, the placement experience is usually challenging and sometimes confronting so that students experience situations that naturally trigger reflection. Secondly, students are not forced to share an evocative experience; they can share something purely technical if they prefer. This choice means that when reflections of experiences with an emotional layer are shared during C-PEGs, they are very likely to be genuine. Another conclusion of this systematic review by Mann and colleagues on the teaching of

reflection in the health professions is that more research is required to elucidate effective strategies for teaching and learning reflective practice (Mann et al., 2007). This evaluation of C-PEGs contributes to a growing body of knowledge in this area.

The C-PEGs made some students think more about what they were learning on the wards. This spotlight on learning associated with immersion in the workplace could help to better illuminate learning opportunities for students in the moment. Having to then share learning with peers encouraged additional mental effort to refine learning. Our data show that this effect was apparent to some students after only two or three sessions. A significant limitation of this evaluation project is its short duration. Further research examining the positive effects on learning behaviours from more frequent C-PEGs sessions over a longer period of time is warranted. Such research could help to establish this kind of educational activity as a method of preparing students for a career of lifelong learning through reflective practice, with an enhanced capacity to learn from conversation with colleagues and daily workplace experiences.

## 5.10 Collaborative Learning with Peers

C-PEGs were introduced as a forum for students on clinical placement to come together and share learning with their peers. The face-to-face groups of five students were peer-only, and the discussion topics were relatively open-ended. These design elements helped to create a safe learning environment for students to share content that mattered to them. Both technical information and reflections were shared and valued, often in the form of clinical cases, acting as cautionary tales with strong take-home messages.

Sharing of placement learning and experiences in face-to-face peer-only discussion groups has potential to be an effective and feasible educational strategy to augment the learning from clinical placement experiences for particular student groups. We surmise that the important conditions for success of C-PEGs are as follows: participants with diverse and relevant placement experiences to share; participants who are close to graduation and hence eager to learn about their peers' experience of, and learning from, the workplace environment; participants with experience of peer learning; and participants who have sufficient foundation knowledge to assist their reflections on workplace experience.

The C-PEGs activity holds educational value for final year medical students. The main benefits are social and educational, with clear evidence of learning about technical and "non-technical" domains of practice. There is some self-reported evidence to suggest that learning behaviours and practice can be positively influenced beyond the sessions. Further research is required to determine if regular participation in C-PEGs could help students learn to talk more openly about their own and others' mistakes and shortcomings as a way of promoting learning and support and enhance students' inclination for reflective practice and peer discussion as modes of lifelong learning. This evaluation raises these worthwhile endpoints as possibilities.

## References


Balint, E., Courtenay, M., Elder, A., Hull, S., & Paul, J. (1993). *The doctor, the patient, and the group: Balint revisited*. London: Routledge.

Bearman, M., & Molloy, E. (2017). Intellectual streaking: The value of teachers exposing minds (and hearts). *Medical Teacher*, 1–2.

Benjamin, J. (2015). *On-the-job learning: The intern experience.* (PhD), Monash University. Retrieved from http://arrow.monash.edu.au/hdl/1959.1/1134826 (148905).

Billett, S. (2016). Learning through health care work: Premises, contributions and practices. *Medical Education, 50*(1), 124–131.

Boud, D., Cohen, R., & Sampson, J. (2001). In D. Boud, R. Cohen, & J. Sampson (Eds.), *Peer learning in higher education: Learning from and with each other*. London: Kogan Page.

Brennan, N., Corrigan, O., Allard, J., Archer, J., Barnes, R., Bleakley, A., et al. (2010). The transition from medical student to junior doctor: Today's experiences of Tomorrow's doctors. *Medical Education, 44*(5), 449–458. https://doi.org/10.1111/j.1365-2923.2009.03604.x

Chou, C. L., Johnston, C. B., Singh, B., Garber, J. D., Kaplan, E., Lee, K., et al. (2011). A "safe space" for learning and reflection: One school's design for continuity with a peer group across clinical clerkships. *Academic Medicine, 86*(12), 1560–1565.

Delaney, C., & Molloy, E. (2009). *Critical reflection in clinical education: Beyond the swampy lowlands. Clinical education in the health professions*. Sydney: Elsevier.

Donaldson, M. S., Corrigan, J. M., & Kohn, L. T. (2000). *To err is human: Building a safer health system* (Vol. 6). Washington, DC: National Academies Press.

Dweck, C. (2017). *Mindset: Changing the way that you think to fulfill your potential.* updated edition: Robinson.

Dyck, L. (2012). Learning together: A learning circle approach for population health status reporting: National Collaborating Centre for determinants of Health.

Hiebert, J. L. B. R. N. (1996). Learning circles: A strategy for clinical practicum. *Nurse Educator May/June, 21*(3), 37–42.

Kinsella, E. A. (2007). Technical rationality in Schön's reflective practice: Dichotomous or non-dualistic epistemological position. *Nursing Philosophy, 8*(2), 102–113.

Klein, J., Delany, C., Fischer, M. D., Smallwood, D., & Trumble, S. (2017). A growth mindset approach to preparing trainees for medical error. *BMJ Quality & amp; Safety, 26*(9), 771–774. https://doi.org/10.1136/bmjqs-2016-006416

Kori, K., Pedaste, M., Leijen, Ä., & Mäeots, M. (2014). Supporting reflection in technology-enhanced learning. *Educational Research Review, 11*, 45–55.

MacGregor, A. (1993). *Transformation and tribal learning*. British Columbia: Open Learning Agency.

Mann, K., Gordon, J., & MacLeod, A. (2007). Reflection and reflective practice in health professions education: A systematic review. *Advances in Health Sciences Education, 14*(4), 595–621. https://doi.org/10.1007/s10459-007-9090-2

Mann, K., Gordon, J., & MacLeod, A. (2009). Reflection and reflective practice in health professions education: A systematic review. *Advances in Health Sciences Education, 14*(4), 595.

Marshall, S., Harrison, J., & Flanagan, B. (2008). *An innovative simulation-based program on Patient Safety for final year medical students*. Paper presented at the 13th Ottawa International Conference on Clinical Competence, Melbourne.

Molloy, E., Borello, F., & Epstein, R. (2013). The impact of emotion in feedback. In D. Boud & E. Molloy (Eds.), *Feedback in higher and professional education*. London: Routlage.

Molloy, E., & Keating, J. (2011). *Targeted preparation for clinical practice developing learning professionals* (pp. 59–82): Dordrecht, Springer.

Newton, J. (2011). Reflective learning groups for student nurses. In S. Billet & A. Henderson (Eds.), *Developing learning professionals: Integrating experiences in university practice settings* (pp. 119–130). Springer Science and Business Media.

Orlander, J. D., Barber, T. W., & Fincke, B. G. (2002). The morbidity and mortality conference: The delicate nature of learning from error. *Academic Medicine, 77*(10), 1001–1006.

Sackin, P. (1994). *Essential and 'Desirable' characteristics of a Balint group*. Council of the British Balint Society.

Schon, D. (1983). *The reflective practitioner: How professionals think in action*. San Francisco: Jossey-Bass.

Schon, D. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. San Francisco: Jossey-Bass.

Steinert, Y. (2004). Student perceptions of effective small group teaching. *Medical Education, 38*(3), 286–293. https://doi.org/10.1046/j.1365-2923.2004.01772.x

Tai, J., Haines, T., Canny, B., & Molloy, E. (2014). A study of medical students peer learning on clinical placements: What they have taught themselves to do. *Journal of Peer Learning, 7*(1), 57–80.

Tai, J., Molloy, E., Haines, T., & Canny, B. (2016). Same-level peer-assisted learning in medical clinical placements: A narrative systematic review. *Medical Education, 50*(4), 469–484.

Topping, K., & Ehly, S. (1998). Introduction to peer-assisted learning. *Peer-assisted Learning, 1*, 1–23.

Torppa, M. A., Makkonen, E., Mårtenson, C., & Pitkälä, K. H. (2008). A qualitative analysis of student Balint groups in medical education: Contexts and triggers of case presentations and discussion themes. *Patient Education and Counseling, 72*(1), 5–11. https://doi.org/10.1016/j.pec.2008.01.012

Wilkinson, T. J., Wade, W. B., & Knock, L. D. (2009). A blueprint to assess professionalism: Results of a systematic review. *Academic Medicine, 84*(5), 551–558.

# Chapter 6
# Post-practicum Strategies to Translate Clinical Experience to Attributes of Employability: Responding to Graduate Selection Criteria


**Garry Kirwan, Neil Tuttle, Benjamin Weeks, and E-Liisa Laakso**

## 6.1 Introduction

To optimise the employability of graduates, a university professional program of learning should advisedly incorporate activities that will augment such learning and assist in the translation of practical experiences to the task of finding new graduate employment. This chapter describes the rationale, content and evaluation of a project to assist students to be more successful in the employment selection process. The chapter commences with a broad contextual overview of the project. We describe an activity in a health professional program that had the express aim of assisting students to translate experiential learning into written and oral responses appropriate for a physiotherapy new graduate job application process. The national professional context of this activity is discussed prior to a detailed description of the employability activity and its outcomes. The authors make some recommendations for future offerings.

G. Kirwan (✉)
Menzies Health Institute Queensland and School of Allied Health Sciences, Griffith University, Gold Coast, Australia

QEII Jubilee Hospital, Metro South Hospital and Health Service, Coopers Plains, Australia
e-mail: garry.kirwan@health.qld.gov.au

N. Tuttle · B. Weeks (✉)
Menzies Health Institute Queensland and School of Allied Health Sciences, Griffith University, Gold Coast, Australia
e-mail: b.weeks@griffith.edu.au

E.-L. Laakso
Menzies Health Institute Queensland and School of Allied Health Sciences, Griffith University, Gold Coast, Australia

Mater Research, South Brisbane, Australia



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_6

### *6.1.1 Contextual Overview*

Workplace practicums are included in a wide range of professional training programs. Within the health professions, practicums are often referred to as clinical placements and form an integral, and frequently mandatory, component of students' preparation for a professional career. The role of clinical placements is to assist students to integrate the skills and knowledge that have been developed on campus into effective clinical practice (Higgs, 2009). Clinical placements generally comprise students working in clinical settings with genuine patients, performing under supervision tasks that would be typical of their profession. During these placements, students often require close supervision early in each placement, but this level of supervision is gradually withdrawn as students progress to working increasingly independently later in the placement program. On physiotherapy placements in Australia, the standard for passing a clinical placement is for each student to have achieved the level of competence expected of a new graduate in that area of practice.

The ability to practice safely and effectively as achieved in clinical placements is a necessary but not a sufficient condition to be employable. That is, for a qualified and competent graduate of an accredited Australian physiotherapy program wanting to practice physiotherapy, an additional determinant of being employable is gaining registration for employment. The Health Practitioner Regulation National Law that guides physiotherapist registration in Australia is enacted by a partnership between the Physiotherapy Board of Australia and the Australian Health Practitioner Regulation Agency (AHPRA). A graduate physiotherapist may not practice until registered.

The final and perhaps defining aspect of employability is gaining actual employment. For new graduate physiotherapists, this often involves applying for designated new graduate positions and usually involves a selection process including written applications and/or interviews. Implied in such new graduate positions is an acknowledgement that the new graduate will likely require some form of professional development in the first year of employment so that the new practitioner can operate effectively in the service within which they are employed. During the job application phase, the applicant needs to convince the potential employer of their suitability by not only communicating their clinical competence gained as a student but also of their personal attributes as might be supported by participation in curricular and extracurricular activities. The project described in this chapter was tailored therefore to take account of the written and in-person aspects of the job application process, as well as supporting a cognitive approach to develop student skills for the process of applying for a job.

The project aimed to (1) improve students' ability to communicate their personal and professional attributes in the application and interview process and (2) enable students to recognise what additional experiences they might undertake prior to graduation that would strengthen their application. The project consisted of two stages; the first occurred during an on-campus period after students in a graduate

entry Master of Physiotherapy program had completed the first of the 2 years of their degree and three of their six clinical placement blocks (each typically of 5-week duration).

Stage one involved students completing a mock written job application and then receiving individual and group feedback from an industry representative. The feedback not only provided students with information on writing applications but also on what additional experiences might strengthen their application. The timing of this stage ensured that students had some experience of the profession which could be used to support their application while also having several months and two additional clinical placements remaining before they would be submitting real job applications. Thus, the students had time not only to improve their written application skills but also to undertake targeted experiences that would provide additional support for their applications.

The second stage occurred in the students' final semester prior to graduation, not long before they would be starting to apply for advertised new graduate positions. The tasks in stage two included writing and receiving feedback on a second written application followed by a simulated interview. The timing of the second stage enabled students to combine additional experiences they had gained in their year 2 clinical placements with the additional insights and skills gained in addressing selection criteria in the first stage of the project.

The project described in this chapter had pragmatic intent and was designed to assist students to build on clinical placement experiences so that they were better able to communicate the acquired skills and knowledge to potential employers during the process of applying for employment. It is useful that this project is seen within the context of employability of Australian physiotherapy graduates more generally, and so the following section provides a more detailed description of such influences.

### *6.1.2 Employability of Australian Physiotherapy Graduates*

Australian physiotherapists work across a range of settings including public and private hospitals, community health and rehabilitation centres, organisations attending to the needs of people with disabilities, mental health services, sports clinics and fitness centres, government entities, the armed forces and schools and universities (Health_Workforce_Australia, 2014). Integral to the curricula is work-integrated learning (WIL), otherwise known as clinical placements, wherein physiotherapy students under the supervision of registered physiotherapists apply their knowledge and skills with members of the public in a supportive and supervised environment.

Employability in the Australian physiotherapy context is measured using the Australian Government Course Experience Questionnaire (CEQ) which assesses the successful transition of graduates from university into the workforce. In particular, the CEQ measures employability as "graduate perceptions of the practical relevance of their course and its development of knowledge and skills applicable to

their workplace experiences and career aspirations"(Richardson & Kabanoff, 2003). The WIL component of physiotherapy programs as occurs in clinical placements is considered to be the best environment for students developing clinical skills and attitudes necessary for employment (Skøien, Vågstøl, & Raaheim, 2009).

Physiotherapy students consider clinical placements to be authentic opportunities for developing a range of personal, communication and professional attributes (Shields, Bruder, Taylor, & Angelo, 2013) especially as "a critical component in transitioning from student to being a professionally competent…" physiotherapist (Gribble, Ladyshewsky, & Parsons, 2017). The opportunities that clinical placements provide are viewed by students as being very important in making career decisions (Janaudis-Ferreira et al., 2016).

Although the location and types of clinical placement sites have been changing with time (Johnstone, Brough, Crane, Marston, & Correa-Velez, 2016), until recently the conceptualisation of the role of placements in developing professional skills and knowledge had remained relatively static. There are perhaps two main concepts of the qualities, attributes and skills that physiotherapy graduates should possess: firstly, threshold statements from the physiotherapy profession and, secondly, statements of graduate attributes from the universities. The selection criteria that graduates need to address in applying for employment often reflect both of these concepts, and so these are described in more detail for the reader's clarity.

The threshold statements consist of a contemporary set of descriptions of the roles, competencies and enabling components required for the transition from student to registrable physiotherapist in Australia and New Zealand and were developed following an extensive process of international consultation and review (Frank, Snell, & Sherbino, 2014). The threshold statements focus on "the complex conceptual, analytical and behavioural elements that integrate foundational abilities, such as the knowledge, skills, attitudes, values and judgements that may be learnt in entry-level programmes" (Physiotherapy_Board_of_Australia & Physiotherapy_Board_of_New_Zealand, 2015). The foundational abilities referred to in the threshold statements often align with, or to some extent mirror, both the graduate attributes that universities purport to instil in their graduates and the expectations of employers.

Universities (through generic graduate attribute statements) seek to align graduate outcomes with potential employer needs and employment outcomes. Graduate attributes have been described as the abilities "that graduates need if they are to be agents of social good in an unknown future" (Barrie, 2006). Some graduate attributes consist of less lofty ambitions, indeed for Australian physiotherapy; some of the graduate attributes described by Australian universities align with physiotherapy practice threshold statements. For example, a simple search of Australian university websites identifies that 33 of 39 list effective communication (oral and written) amongst their graduate attributes. As a graduate competency for employment, communication skills have been identified as a significant attribute in many professions including veterinarians (Cake et al., 2016) and those who work in health informatics (Butler-Henderson, 2017). The importance of communication as a graduate attribute as well as an employability indicator becomes obvious as we consider the employer view.

Employers (through statements of organisational values and key selection criteria in physiotherapy recruitment processes) seek to recruit staff who possess effective (written and verbal) communication, so this is often one of the key selection criteria for new graduate physiotherapy positions. Many of the key selection criteria of state health department facilities (that are some of the largest employers of new graduate physiotherapists in Australia) also utilise words common to the physiotherapy threshold statements and university graduate attribute statements. For example, in the 2016 Queensland Health graduate physiotherapist job advertisement, one of the key duties, accountabilities and assessment criteria for applications was "effective communication skills".

Employer expectations of communication expertise in new graduates align with the "communicator" role and Physiotherapy Board of Australia key competency (number 3.1) in the threshold statement for physiotherapy, which states that the registered physiotherapist should be able to "use clear, accurate, sensitive and effective communication to support the development of trust and rapport in professional relationships with the client and relevant others". Preregistration physiotherapy student learning therefore needs to align not only with the skills required to work in the chosen profession but the expectations of employers; thus, students not only need to learn effective communication skills, they need to be able to show how they do so as part of any job application process.

University audits by the national standards agency and professional program accreditation bodies requires evidence of mapping and alignment of a range of criteria to ensure that the community's needs and statutory registration requirements are reflected in the students' learning. The imperatives imposed by accreditation processes result in the need to enunciate student outcomes in the framework of their professional learning. Despite the seeming alignment of physiotherapy practice thresholds, graduate attributes and employer recruitment criteria, capabilities such as communication and professional and ethical practice, are difficult to quantify in practice and assessment. Barrie, Hughes, & Calvin (2009) note that, "External accreditation requirements can limit or promote the type of graduate attributes that are assessed" and furthermore "traditional and simplistic approaches to assessment cannot address the complexity of graduate attributes". The simple commonality and alignment of words (such as "communication skills") may be reassuring to employers and regulators, but the value of an employee (especially a new graduate) is not entirely known until the individual enters the workplace. It is axiomatic that universities prepare their students for the regulatory framework as well as for the practical requirements of the workplace.

Graduate employability is important to students, educators, universities (Jackson, 2014; Stewart, Shanmugam, & Seenan, 2016) and employers. Although students develop attributes essential for employment throughout their study, it is important that they are also able to effectively communicate those attributes to potential employers (Jackson, 2016). If it is not possible or feasible to quantify personal and professional attributes through assessment, then alternative or additional measures are required to assist graduates into the competitive workplace and to help them to demonstrate their employability.

Specific curriculum-based efforts to assist impending graduates to find employment are described in the literature. For example, an overview of the range of ways in which practice skills, transferable skills and personal development planning are integrated into UK science programs suggests that students need to know how to express to potential employers what their skills are and to be able to provide evidence of their achievement of those skills (Fahnert, 2015). Fahnert states that the "transition from learner to employee is a challenge", but that by integrating a range of skills in curricula the transition can be more effective. One aspect of the transition to employment is the concept of employability.

The concept of employability acknowledges that formal qualifications alone are a poor predictor of employment success and personal qualities are equally important (Kuokkanen et al., 2016; Messum, Wilkes, & Jackson, 2011). The concept of employability has been presented as two contrasting constructs where the first argues employability centres around the individual, whereas the second proposes a broader construct implicating extrinsic labour market factors ultimately driving employability (Sin & Neave, 2016). Although these concepts are contrasting, it is reasonable to suggest that both factors are inextricably related and both contribute to the outcome of employability.

Within the physiotherapy profession, the academic sector has seen a significant growth in the number of Australian physiotherapy graduates over the last decade. For example, in 2012 the total number of registered physiotherapists was 23,934 with 5655 registered physiotherapy students (Australian Institute of Health and Welfare, 2013). In 2018, the number of registered physiotherapists had risen to 32,218 (Physiotherapy Board of Australia, 2018). As a result, there has been an increased pressure on the labour market. New graduate positions have therefore become increasingly competitive, and individual student factors have become a more significant attribute for success in new graduate employment. A study by Jones, McIntyre, & Naylor (2010) explored the preparedness of final-year physiotherapy students and found that students were unable to identify the core transferable skills required by employers. The fact that students lacked an ability to identify the relevant skills required for their future vocation would indicate an equally poor ability to convey relevant personal attributes within a recruitment process potentially affecting their employment (Jones et al., 2010). Mindful of the findings of Jones et al., the authors set out to implement a set of practical training activities to develop in physiotherapy students the necessary skills required to firstly identify attributes of employability and then apply strategies to communicate the attributes via a new graduate recruitment process. The aim of the program was to enhance students' capability in communicating attributes of employability through both the written and interview processes common amongst new graduate recruitment.

### *6.1.3 Preparation for Employability*

In the university concerned, at present, students enrolled in the post-graduate physiotherapy program undertake six placements totalling 27 full-time clinical weeks. The placements are integrated throughout the program, with each focusing on specific aspects of physiotherapy and healthcare practice.

The program utilises Bruner's notion of a spiral curriculum (Duncan & Hmelo-Silver, 2009) where concepts and skills are initially presented in a basic form and are expanded in successive iterations of increasing depth and complexity. This approach builds on the concept of zones of proximal development originally proposed by Vygotsky (cited in Sanders & Welk, 2005) where learning is seen to occur in small, accessible steps from what is known towards new skills and knowledge. Learning environments are then structured to support or scaffold the learner's development (Sanders & Welk, 2005). Specifically, in this instance, students undertake theoretical and skills-based learning covering an area of physiotherapy practice on campus followed by pre-placement-facilitated planning sessions and, in some cases, simulation-based learning specifically modelled on the placement that is to follow. Each clinical placement is directly related to the preceding on-campus content, and each placement is followed by post-placement reflection including written reflection and facilitated group discussions. Similarly, each subsequent on-campus period builds on the knowledge and skills from previous on-campus periods and clinical placements. In summary, each on-campus period is followed by a related clinical placement which in turn supports the following on-campus period. Small group classes before and after each placement provide information and opportunity for discussion to facilitate the transitions to and from clinical placements (Fig. 6.1).

The entire program is structured to prepare students to be registrable, employable and employed. Although we have been diligent to assist transitions between on-campus blocks and clinical placements, student feedback has highlighted a perceived lack of readiness to successfully transition from university to employment. Interestingly, the student perception, however, is counter to the perception of employers who consistently rate graduates from this program highly across both professional and university graduate attributes. The dissonance between the students' self-rating and the rating by employers may be explained by the institutions' emphasis on promoting lifelong learning and that as new graduates, and even as experienced practitioners, they recognise they still have much to learn and should continue to develop their skills and knowledge throughout their careers. Notwithstanding, employers' perception (garnered through surveys required for program accreditation purposes) that graduates from this program are well-prepared in the professional practice domains, competition for employment in new graduate positions is increasing. Competition for new graduate physiotherapy positions is increasing each year in Australia with a greater than 300% increase in numbers of university programs and concomitant number of graduates in the past decade.

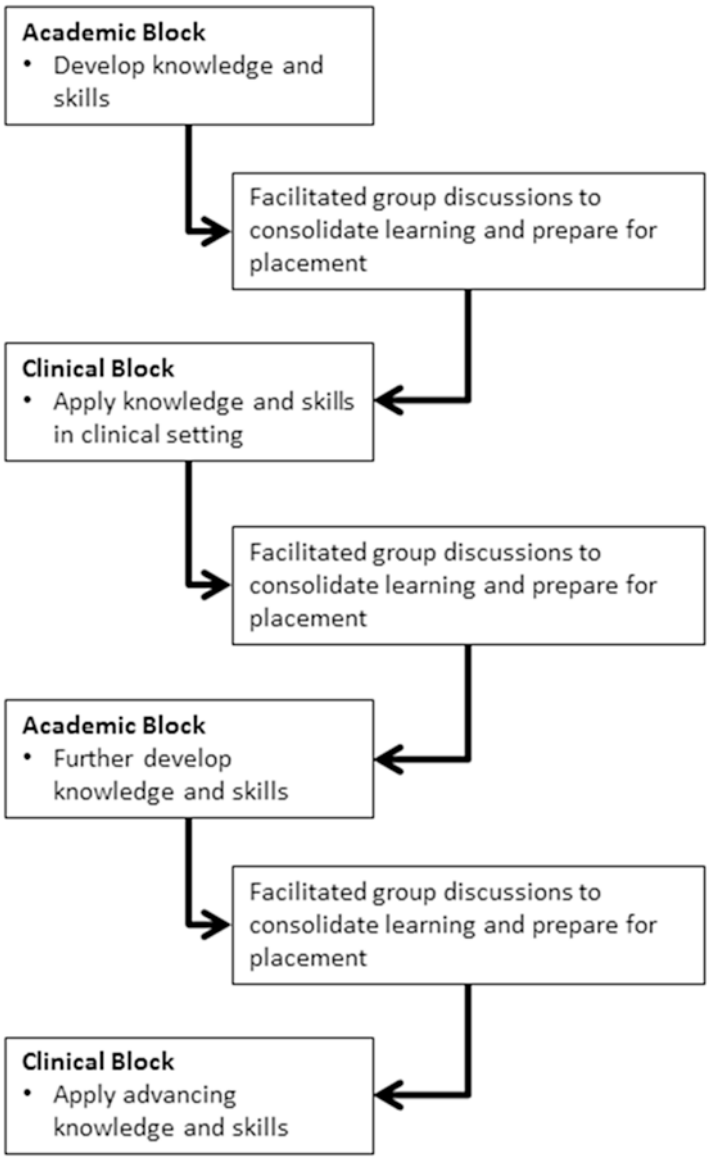


**Fig. 6.1** Development of a learner's knowledge and skills through a scaffolded approach

Although employability is complex and dependent on many factors, it is recognised that the skill of applying for a job is a critical component (Jackson, 2014, 2016; Stewart et al., 2016). Generally, within the physiotherapy profession, new graduate physiotherapists engage with a competitive recruitment process involving a written application (with cover letter and response to key selection criteria), a curriculum vitae and an interview. Students undertake extensive training to acquire

knowledge, skills and competency in the practice of physiotherapy. The ability to communicate these attributes and capabilities during the job application process, which is essential for employment success, has not previously been a focus of our program. Previous cohorts in the physiotherapy program attended two lectures of 2-h duration that focused on the process of applying for new graduate positions. The first lecture focused on the public hospital setting, while the second explored the private practice setting. Due to the size of the student cohort, lectures were relatively didactic in nature and focused on the key aspects of a new graduate application with some examples to assist students in understanding the concepts. The main limitations of such an approach were the inability to explore the variation and nuances of new graduate applications between sectors and a failure to give the students an opportunity to engage in the process.

This project applied principles of scaffolding (Sanders & Welk, 2005) to the transition from university education to employment in a similar way to how students are assisted to transition between on-campus teaching and clinical placements. The aim was to develop two stages of post-placement learning activities that were focused on students acquiring experiences that would assist in developing attributes relevant to new graduate employment and being able to effectively communicate those attributes to prospective employers. Students undertook a process that simulated current practice including written applications and interviews for positions based on key selection criteria from new graduate recruitment material that included extensive feedback and opportunity for reflection.

## 6.2 Methods

It has been well documented that the process of performing authentic tasks and receiving feedback enhances student learning and skill development (Ivers et al., 2012; van de Ridder, Peters, Stokking, de Ru, & ten Cate, 2015; Wells & McLoughlin, 2014). Therefore, adapting a similar approach to the skill of communicating student attributes of employability seemed pertinent to improve student performance. We hypothesised that through targeted activities there would be improvements in student confidence, understanding and performance in writing job applications over the course of the project. In this section, we describe the methodological aspects of the physiotherapy employability project.

### *6.2.1 Participants*

All final-year students in the physiotherapy program were invited to participate in the project. The project was undertaken between April 2016 and September 2016 at the main regional campus. Seventy-one final-year students were invited to participate using an opt-in model of recruitment, with 47 (66%) students electing to

participate. The mean participant age was 25.1 ± 5.3 years with 66.7% (n = 30) of participants being female. Only 6.7% (n = 3) of participants had undergone previous training in job application processes.

### *6.2.2 Project*

Prior to conducting the project, ethical approval was granted by the University's Human Ethics Department (Protocol number 2016/197). For the purposes of this project, the lectures provided in the previous years were continued with the addition of extra components which were delivered in two stages to final-year physiotherapy students who volunteered to participate. In the first stage, students prepared an application in response to selection criteria from previous new graduate positions in one of four areas of physiotherapy practice. Each student selected the area that most interested them from the four available: (1) public hospital, (2) private hospital, (3) private physiotherapy practice and (4) community physiotherapy service.

Completed written applications were submitted to the university project coordinator, de-identified and distributed to an industry professional for review and feedback. One industry professional with expertise in the recruitment of new graduate physiotherapists was selected from each of the four areas of practice to ensure authenticity in the feedback provided. The reviewer was given the instruction of providing the students with written feedback on the positive aspects of the application, the areas to improve and strategies to assist with further knowledge or skills development (e.g. additional experiences that might be useful to strengthen the application). In addition, reviewers were given the instruction to rate the application out of a score of ten based on the criteria they would typically apply to evaluate a new graduate application in their area of practice. Therefore, all students received individual written feedback and a score out of ten to interpret the quality of their application. As a final method of evaluation, investigators asked the reviewers to provide a recommendation on the merit of the application to progress to an interview based on their experience. This information was not provided to the student, as it was deemed not in the interest of learning.

The next phase of the project was intended to ensure that learning was a function of an authentic activity with social interaction and collaboration between students and guided by the end-user of the applications. Hence, we utilised a situated learning approach (Lave, Wenger, & Wenger, 1991). Each student was asked to reflect on their application considering the feedback they received and to formulate strategies to improve their new graduate written application. To consolidate the learning gained from the written feedback and reflection, interactive workshops were conducted 1 week later to explore the attributes of an effective application. For the first part of the workshops, each industry representative facilitated a discussion with the students who had applied to that area of practice. Discussion included a general overview of the desirable features of an application in the area of practice, a sum-

mary of the feedback provided on the applications reviewed and questions from individual students fielded by the industry representative. All industry representatives and students convened together for a discussion of the similarities and differences across the areas of practice which provided an opportunity for all students to gain an understanding of the approaches to recruitment in different areas of practice within the physiotherapy profession. For instance, similar emphasis was placed on communication skills and professionalism across the areas of practice; however priorities differed in terms of skills and knowledge of areas such as business principles required in private practice. A diagram summarising stage one of the project is outlined in Fig. 6.2.

After the first stage of the project, to consolidate reflective learning skills (after Dewey, 1933) that were being developed in parallel in other parts of the physiotherapy program, and based on the knowledge gained from the experience, students were requested to reflect on and identify personal goals for further development and ways to improve their attributes of employability. The goal was to encourage the student to engage in thinking that would impel inquiry and to seek ways to further develop their skills and attributes during planned clinical placements undertaken prior to the second stage.

In the second stage of the project, students selected a different area of practice. The value of students applying to two different areas of practice was threefold. Firstly, it was agreed that most new graduates would apply for more than one type of job due to the competitive nature of the current employment market. Secondly, it enabled students to understand how to apply the principles of constructing a written application to more than one employment context, which has lifelong benefits. And

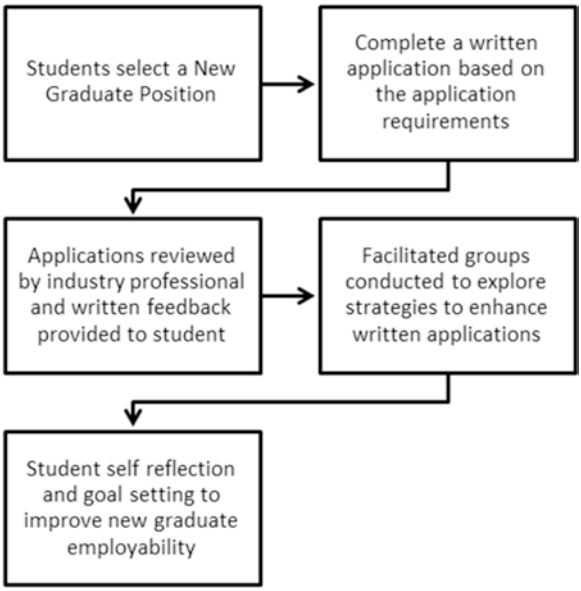


**Fig. 6.2** Project design stage 1

finally, it allowed students more opportunity and choice to enhance the student experience. Similar to stage one, students prepared a written application for the identified area of practice but also incorporated the learnings and additional skills developed from the first stage. Students again received written feedback. The investigators were provided with a score out of ten and an indication from the industry representatives on whether an interview would have been offered based on the application reviewed.

Students had 1 week to reflect, review their written feedback and prepare for a simulated interview for the new graduate position they had applied for. Simulation-based learning is used in other parts of the physiotherapy program, so students were familiar with the concept. The simulated interviews were conducted over 1 day in teaching spaces that had been converted into an environment that replicated an interview setting. Student briefings occurred outside of the interview rooms and included information regarding the structure, ground rules and roles of the day and a reminder that this was a learning opportunity that did not impact on their grades. Students were seated in waiting areas prior to being called into the interview rooms.

Each group of four students participated in four interviews – each student was the interviewee once, and as much as possible, the interviews included all four areas of practice. For each interview, the panel consisted of the industry representative who had reviewed the student's application, an academic staff member with experience in that area of practice and in debriefing other simulated learning environments and a student from the group. Each panel member asked one of three authentic interview questions from that area of practice (Table 6.1). The remaining two students in the group were active observers who had each been tasked with providing feedback on specific aspects of the interview. Thus, each student was involved in four interviews as (1) an interviewee for the area of practice they applied for, (2) a panel member for another student's interview and (3) an active observer for two other interviews. As well as having experience of being interviewed, the day was structured to enable each student to experience multiple interviews and benefit from peer learning. The optimal benefit from peer learning occurs if each student has a specific role either being directly involved in the simulation, being an active participant or an active observer (O'Regan, Molloy, Watterson, & Nestel, 2016).

After each simulated interview, students were given verbal feedback on their performance and provided with examples of positive attributes, areas to be improved and strategies to improve future interview performance. The academic staff member led the feedback and debriefing after each interview using a method similar to the PEARLS approach described by Eppich and colleagues (Eppich & Cheng, 2015). Although debriefing followed the needs of the learners, the various interviewers tended to focus on different areas. The industry representatives tended to focus on refining the content of the students' responses, while the student peers, after saying what a good job their colleague had done and empathising with the difficulty of the situation, tended to make a few specific suggestions about wording or mannerisms.

**Table 6.1** Summary of questions asked during simulated interviews

| Professional area | Interview questions |
|---|---|
| Public hospital | 1. An orthopaedic clinical scenario was provided and the following questions asked in relation to the case: |
| | (a) Outline your assessment of this patient |
| | (b) What referrals to other members of the multidisciplinary team would be required and why? |
| | (c) What aspects of safety would need to be considered for discharge? Formulate a plan to return to a previous level of function |
| | 2. When faced with an unfamiliar clinical condition on a busy ward, how or what steps would you take to become more informed about this condition? What resources would you utilise, and what would influence your decision on treatment selection? |
| | 3. Can you provide an example of how you have worked within a team environment in a clinical setting to achieve a specific outcome for a client? Who did you involve and what steps were required? |
| Private hospital | 1. Provide us with a brief summary of your clinical experience |
| | 2. Outline your experience in delivery quality improvement projects |
| | 3. Describe a situation where you had a difference of opinion with a co-worker, and how did you resolve it? |
| Private practice | 1. What do you know about the practice, and why would you like you work with us as a new graduate physiotherapist? |
| | 2. What are your long-term goals as a physiotherapist? How do you see them being achieved? |
| | 3. A patient presents with a 6-week history of low back pain. They ask you whether they should get a scan done as it is not getting better. What is your response and what factors have you considered to make that response? |
| Community | 1. Are you familiar with the following funding arrangements or services CHSP (previously HACC), HCP (previously EACH/CACPS), CDM (previously EPC), DVA, ACFI, MASS, RAP and TCP? |
| | 2. This agency offers flexible work hours, extensive access to resources, staff support and great rates of pay. As a successful applicant, what would you offer to bring to the agency? |
| | 3. Tell me what success means to you. What are your goals to achieve with the available position? |

The academic staff member of the panel often applied a debriefing with good judgement approach (Rudolph, Simon, Rivard, Dufresne, & Raemer, 2007) to extend the conversation beyond specific behaviours to explore what lay behind their actions. For example, if a student's performance was impacted by them being particularly nervous, then the discussion may have included facilitating the student to find their own strategies to minimise that interference. In addition, students took the opportunity to ask questions and further explore their performance to understand how to improve their interview skills.

### 6.2.3 Evaluation

Both quantitative and qualitative methods of data collection were employed to evaluate the project. Quantitative assessments were performed according to levels one, two and three of Kirkpatrick's levels of evaluation (Eseryel, 2002). In the first level, reaction was evaluated by student rating of the value of the project to improve their ability to demonstrate attributes of employability through the written application and interview process. In level two, learning was evaluated by changes in student perception of their understanding and confidence in relation to the same attributes evaluated for reaction. The decision to evaluate understanding and confidence as the primary constructs was reached through investigator consensus, and subsequent questions were developed to assess such attributes. In level three, behaviour was evaluated by differences in the rating of students' written applications for stage one and two. Student perception of the impact of the project was also collected.

To enable evaluation of changes in the written applications from the first stage of the project, written applications from both stages were scored on a scale from 0 to 10, where 10 represented the best performance. Interview performances in stage two were rated on the same global scale. Different areas of practice and indeed different employers within each area of practice used different metrics to rate applications. A global scale was used to facilitate comparisons of application quality across areas of practice and was considered appropriate because of the strong correlation between scales that evaluate individual items and global scales (Turner et al., 2014) and its capacity to capture nuances of rater experience that may be missed with specific criteria (Mazor, Ockene, Rogers, Carlin, & Quirk, 2005).

### 6.2.4 Data Analysis

Descriptive statistics were calculated for all variables including frequencies, means and standard deviations. The hypotheses that there would be improvements in student confidence, understanding and performance were evaluated by comparing before and after perceptions by student and ratings by industry representative using paired samples t-tests. Chi-squared analysis was conducted to determine whether there was a difference in the likelihood of achieving an interview from the written applications in the first and second stages.

In addition to quantitative survey responses, we collected student responses from open questions. Data from open questions were intended to be used to inform improvements in future iterations of the activity and therefore were not subjected to formal qualitative analysis.

### *6.2.5 Results*

Student reaction to the project (Kirkpatrick level one) was indicated by overall student satisfaction in achieving the project aim of improving employability. Overall satisfaction was 89.9% ± 10.6 indicating a high level of student satisfaction for the inclusion of this form of curriculum activity. Student feedback after the project also highlighted the benefits of the facilitated focus group in improving written job application skills (3.5 ± 0.5) and the simulated interviews at improving confidence in undertaking an interview (3.5 ± 0.5).

Kirkpatrick level two, student learning, was indicated by student self-ratings on 5-point Likert scales of understanding of and confidence in applying for new graduate positions. Understanding regarding the application process increased from 2.1 ± 0.5 at the outset of the project to 2.9 ± 0.4 by the end of the project. Student-perceived confidence in applying for new graduate jobs rose from 1.6 ± 0.6 at the outset of the project to 2.7 ± 0.6 at the end of the project.

Kirkpatrick's third level, behaviour, was evaluated by comparing the assessment of the written applications for the two stages of the project. The score out of ten directly represents the students' ability to meet the employers' expectations for the position description and, hence, is the best predictor of their likelihood to progress to interview. The mean written application score significantly improved from 6.1 ± 1.8 in the first phase to 7.1 ± 1.7 in the second phase ($p = 0.01$). This outcome demonstrates that the intervention was successful in improving student ability to demonstrate attributes of employability when writing a new graduate application. The number of students who would have been recommended to progress to interview (typically a score ≥ 7/10) based on their written applications increased from 51.1% to 61.9%.

## 6.3 Discussion

This chapter has described the context and rationale for a project designed to improve student knowledge, understanding and confidence in translating generic attributes and profession-specific clinical skills and knowledge into a form that would be suitable for a written job application and to further develop those competencies into the interview framework utilising a simulated learning environment. The positive results demonstrate the value of the pedagogical approaches that were taken with the aim to improve physiotherapy graduate employability.

The findings of this project reinforce the importance of student engagement in practical employability activities to augment their likelihood of progressing through expected recruitment processes. Authentic activities, delivered in partnership with potential employers of new graduates, appear to be an effective method to achieve such an outcome. As others have observed (Dray, Burke, Hurst, Ferguson, & Marks-Maran, 2011), employment activities that are highly specific to the "real-life" job

applications and that engage employers tend to be successful. In professions where standardised new graduate employment practices are common place, integrating strategies that develop skills for translating learning experiences into attributes of employability through a written application and interview application process are critical for maximising student success upon graduation.

The ideal way to evaluate how well a program such as this achieved its aim of increasing employability would have been to measure the success rate for new graduates in gaining employment. Australian Graduate Survey data suggests that for physiotherapists in Australia, there is a strong ceiling effect since the median for new graduate employment for physiotherapy programs is 96%. A second option would have been to evaluate the relative proportion of new graduates who were successful in gaining their first choice of employment. We could not devise a way to objectively measure first preference employment, nor was historical data available for comparison. Anecdotally, compared with previous cohorts, a larger number of new graduates from those involved in this project were successful in applications for the available coveted positions in the public hospital system in the year following the implementation of this project.

Student responses collected from open survey questions to facilitate future improvements were generally positive. One concern expressed by two students however was that although the applications discussed in the focus groups were not identified, they found focus groups confronting when undesirable aspects of their own applications were discussed. A sense of failure was reported by these students, which left them with a perception that the outcome might hinder their future opportunities in applying for employment in that area of physiotherapy. While the chosen methodology was designed to blind employers from the identity of students within the focus group, some students felt it was still possible to deduce the identity of some applicants. In future practice, it will be important to ensure anonymity is maintained within the focus groups to ensure a safe opportunity is provided for students to build competence and confidence.

There were several limitations of the evaluation of the project that warrant discussion. Firstly, although the global rating scale of the applications and interviews allowed for direct comparisons across areas of practice, the method was different to the variety of methods used by each employer and therefore lacked a degree of authenticity. Secondly, student perceptions can be unreliable and are contingent on their knowledge and understanding at the time of being surveyed. It would have been interesting to canvas student perceptions of the effectiveness of the project after they had graduated and been through the employment process and had gained employment. Thirdly, open survey questions were included as a means of collecting qualitative feedback for future enhancement, and thus a formal qualitative analysis was not performed. Such an undertaking would likely have given deeper insights into project outcomes beyond what could be explained with quantitative data. Finally, longer-term outcomes in relation to actual employment success would be a strong indicator of the success of the approach; however this data proved to be too challenging to collect within the scope of the project.

## 6.4 Recommendations

The project described in this chapter was initiated to address a range of confluent factors including student feedback and the increasing importance being placed upon the concept of employability in Australian universities. Alignment of curricula with graduate attributes and health professional requirements was noted. Pedagogical approaches to the project implementation were outlined. As this was the first time that this initiative was undertaken, however, we recognise that modifications to the approach and implementation can be made based on feedback from all stakeholders including students, academic staff and industry participants. The key factors are outlined herein and some recommendations are made.

Student participation in the activity was voluntary and undertaken alongside existing curricula. Consequently, only 61.8% (n = 47) of the eligible student population volunteered, and we observed a 12.8% (n = 6) attrition of students across the duration of the project. The primary reason for withdrawal was competing academic activities and clinical placement requirements. Given the project was extracurricular, core academic and clinical tasks were required to be completed concurrently with the project. Therefore, to ensure maximum accessibility in the future, integration of the project into the curriculum would be ideal. This would afford students more time to reflect on their learnings and clinical experiences to further develop their job application skills. In fact, providing time to reflect and combine learnings of the recruitment process with discipline-based skills prior to graduation has been recognised as an important element for a successful transition to employment (Jones & McIntyre, 2009). Furthermore, students reported that the timing of the activities was not optimal, suggesting that they were too close to their formal assessment activities. Integrating the project activities with curricula would serve to address this.

There appears to be further opportunities for enhancement of focus group activities regarding the operational aspects of group interactions. For example, there was consistent student feedback that a greater opportunity for one-to-one guidance from the focus group facilitator would be highly valued. There was a corresponding impression from the facilitators that the size of some focus groups diluted their capacity to address individual needs, particularly in the groups with 18 or more participants. The smaller groups were well received, and this size (8–10 participants) is consistent with previous recommendations for the size of focus groups (Krueger & Casey, 2002). It is recommended for future projects to limit focus group numbers to ten participants.

Based on this experience, our key recommendations to others seeking to improve their students' ability to translate their clinical experiences into attributes of employability are as follows:

1. Provide authentic job advertisements (and selection criteria).
2. Afford students an iterative process of completing mock job applications.
3. Provide opportunities for simulated job interviews, including experience as a panellist and observer.

4. Engage employers in the process as reviewers/panellists to provide authentic feedback.
5. Provide individual and small group feedback.
6. Allow adequate opportunity for debriefing, reflecting and formulation of improvement strategies.

Whilst improving graduate employability is a complex and challenging undertaking, we saw an opportunity to leverage the rich clinical experiences of our physiotherapy students by encouraging their participation in an authentic job application process. Our approach was to develop and implement a voluntary suite of activities undertaken by final-year students in the process of completing their final clinical placements. The activities focused on the job application and interview process with engagement of industry representatives as panellists and to provide authentic feedback. While there were a few criticisms about the timing of activities and the numbers of participants in focus groups, students overall were enthusiastic about the approach, job application quality improved and we had the impression of improved employment outcomes for participants. Although our project included only physiotherapy students, the approach is highly transferrable to other professions.

## References

Australian Institute of Health and Welfare. (2013). *Allied health workforce 2012. National health workforce series no. 5. Cat. No. HWL 51*. Canberra, Australia: AIHW.

Barrie, S. C. (2006). Understanding what we mean by the generic attributes of graduates. *Higher Education, 51*(2), 215–241.

Barrie, S. C., Hughes, C., & Calvin, S. (2009). *The national graduate attributes project: Integration and assessment of graduate attributes in curriculum*. Retrieved from https://sydney.edu.au/education-portfolio/ei/projects/nationalgap/resources/gappdfs/national%20graduate%20attributes%20project%20final%20report%202009.pdf

Butler-Henderson, K. (2017). *Health information management 2025. What is required to create a sustainable profession in the face of digital transformation?*

Cake, M. A., Bell, M. A., Williams, J. C., Brown, F. J., Dozier, M., Rhind, S. M., et al. (2016). Which professional (non-technical) competencies are most important to the success of graduate veterinarians? A best evidence medical education (BEME) systematic review: BEME guide no. 38. *Medical Teacher, 38*(6), 550–563.

Dewey, J. (1933). *How we think: A restatement of reflective thinking to the educative process*. Boston: D. C. Heath.

Dray, B., Burke, L., Hurst, H. M., Ferguson, A., & Marks-Maran, D. (2011). Enhancing the employability of newly qualified nurses: A pilot study. *Journal of Further and Higher Education, 35*(3), 299–315.

Duncan, R. G., & Hmelo-Silver, C. E. (2009). Learning progressions: Aligning curriculum, instruction, and assessment. *Journal of Research in Science Teaching, 46*(6), 606–609.

Eppich, W., & Cheng, A. (2015). Promoting excellence and reflective learning in simulation (PEARLS): Development and rationale for a blended approach to health care simulation debriefing. *Simulation in Healthcare, 10*(2), 106–115. https://doi.org/10.1097/SIH.0000000000000072

Eseryel, D. (2002). Approaches to evaluation of training: Theory & practice. *Educational Technology & Society, 5*(2), 93–98.

Fahnert, B. (2015). On your marks, get set, go!—Lessons from the UK in enhancing employability of graduates and postgraduates. *FEMS Microbiology Letters, 362*(19), fnv150.

Frank, J., Snell, L., & Sherbino, J. (2014). *The draft CanMEDS 2015 milestones guide.* Royal College of Physicians and Surgeons of Canada. Retrieved from http://www.royalcollege.ca/portal/page/portal/rc/common/documents/canmeds/framework/canmeds_milestone_guide_sept2014_e.pdf

Gribble, N., Ladyshewsky, R. K., & Parsons, R. (2017). Fluctuations in the emotional intelligence of therapy students during clinical placements: Implication for educators, supervisors, and students. *Journal of Interprofessional Care, 31*(1), 8–17.

Health_Workforce_Australia.(2014).*Australia'sHealthWorkforceseries–Physiotherapistsinfocus*. Retrieved from http://pandora.nla.gov.au/pan/133228/20150419-0017/www.hwa.gov.au/sites/default/files/HWA_Australia-Health-Workforce-Series_Physiotherapists-in-focus_vF_LR.pdf

Higgs, J. (2009). Ways of knowing for clinical practice. In C. Delany & E. Mollow (Eds.), *Clinical education in the health professions* (pp. 25–37). Sydney, Australia: Elsevier.

Ivers, N., Jamtvedt, G., Flottorp, S., Young, J. M., Odgaard-Jensen, J., French, S. D., et al. (2012). *Audit and feedback: Effects on professional practice and healthcare outcomes*. The Cochrane Library.

Jackson, D. (2014). Factors influencing job attainment in recent bachelor graduates: Evidence from Australia. *Higher Education, 68*(1), 135–153. https://doi.org/10.1007/s10734-013-9696-7

Jackson, D. (2016). Skill mastery and the formation of graduate identity in bachelor graduates: Evidence from Australia. *Studies in Higher Education, 41*(7), 1313–1332. https://doi.org/10.1080/03075079.2014.981515

Janaudis-Ferreira, T., Araujo, T., Romano, J. M., Camp, P. G., Hall, M., Mathur, S., et al. (2016). Perspectives of Canadian final-year physiotherapy students on cardiorespiratory physiotherapy as a career choice. *Physiotherapy Canada, 68*(3), 282–289.

Johnstone, E., Brough, M., Crane, P., Marston, G., & Correa-Velez, I. (2016). Field placement and the impact of financial stress on social work and human service students. *Australian Social Work, 69*(4), 481–494.

Jones, M., & McIntyre, J. (2009). Preparation for health and social care employment. In A. Atwal & M. Jones (Eds.), *Preparing for professional practice in health and social care*. Singapore: Wiley.

Jones, M., McIntyre, J., & Naylor, S. (2010). Are physiotherapy students adequately prepared to successfully gain employment? *Physiotherapy, 96*(2), 169–175.

Krueger, R. A., & Casey, M. A. (2002). Designing and conducting focus group interviews. *Social analysis, selected tools and techniques, 4*(23), 4–24.

Kuokkanen, L., Leino-Kilpi, H., Numminen, O., Isoaho, H., Flinkman, M., & Meretoja, R. (2016). Newly graduated nurses' empowerment regarding professional competence and other work-related factors. *BMC Nursing, 15*(1), 22.

Lave, J., Wenger, E., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation* (Vol. 521423740). Cambridge: Cambridge University Press.

Mazor, K. M., Ockene, J. K., Rogers, H. J., Carlin, M. M., & Quirk, M. E. (2005). The relationship between checklist scores on a communication OSCE and analogue patients' perceptions of communication. *Advances in Health Sciences Education, 10*(1), 37–51. https://doi.org/10.1007/s10459-004-1790-2

Messum, D., Wilkes, L., & Jackson, D. (2011). Employability skills: Essential requirements in health manager vacancy advertisements. *Asia Pacific Journal of Health Management, 6*(2), 22–28.

O'Regan, S., Molloy, E., Watterson, L., & Nestel, D. (2016). Observer roles that optimise learning in healthcare simulation education: A systematic review. *Advances in Simulation, 1*(1), 4.

Physiotherapy_Board_of_Australia, & Physiotherapy_Board_of_New_Zealand. (2015). *Physiotherapy practice thresholds in Australia and Aotearoa New Zealand*. Retrieved from https://physiocouncil.com.au/media/1020/physiotherapy-board-physiotherapy-practice-thresholds-in-australia-and-aotearoa-new-zealand-6.pdf

Physiotherapy Board of Australia. (2018). *Registrant data: Reporting period 1 July 2018–30 September 2018*. Retrieved from https://www.physiotherapyboard.gov.au/about/statistics.aspx

Richardson, A., & Kabanoff, B. (2003). *Graduates perceptions of university study and its contribution toward the development of workplace competence.* Paper presented at the joint Australian and New Zealand Associations for Research in Education conference. Auckland. http://www.aare.edu.au/03pap/ric03647.pdf

Rudolph, J. W., Simon, R., Rivard, P., Dufresne, R. L., & Raemer, D. B. (2007). Debriefing with good judgment: Combining rigorous feedback with genuine inquiry. *Anesthesiology Clinics, 25*(2), 361–376. https://doi.org/10.1016/j.anclin.2007.03.007

Sanders, D., & Welk, D. S. (2005). Strategies to scaffold student learning: Applying Vygotsky's zone of proximal development. *Nurse Educator, 30*(5), 203–207.

Shields, N., Bruder, A., Taylor, N. F., & Angelo, T. (2013). Getting fit for practice: An innovative paediatric clinical placement provided physiotherapy students opportunities for skill development. *Physiotherapy, 99*(2), 159–164.

Sin, C., & Neave, G. (2016). Employability deconstructed: Perceptions of Bologna stakeholders. *Studies in Higher Education, 41*(8), 1447–1462.

Skøien, A. K., Vågstøl, U., & Raaheim, A. (2009). Learning physiotherapy in clinical practice: Student interaction in a professional context. *Physiotherapy Theory and Practice, 25*(4), 268–278.

Stewart, J., Shanmugam, S., & Seenan, C. (2016). Developing 21st century graduate attributes: Incorporating novel teaching strategies in a physiotherapy curriculum. *European Journal of Physiotherapy, 18*(3), 194–199. https://doi.org/10.1080/21679169.2016.1181205

Turner, K., Bell, M., Bays, L., Lau, C., Lai, C., Kendzerska, T., et al. (2014). Correlation between global rating scale and specific checklist scores for professional behaviour of physical therapy students in practical examinations. *Education Research International, 2014*, 219512. https://doi.org/10.1155/2014/219512

van de Ridder, J. M., Peters, C. M., Stokking, K. M., de Ru, J. A., & ten Cate, O. T. J. (2015). Framing of feedback impacts student's satisfaction, self-efficacy and performance. *Advances in Health Sciences Education, 20*(3), 803–816.

Wells, L., & McLoughlin, M. (2014). Fitness to practice and feedback to students: A literature review. *Nurse Education in Practice, 14*(2), 137–141.

# Chapter 7
# The Continuity of Care Experience and Reflective Writing: Enhancing Post-Practicum Learning for Midwifery Students


**Linda Sweet, Janice Bass, and Kristen Graham**

## 7.1 Introduction

Practice-based placements are highly valued by students for linking propositional occupational knowledge taught in education settings, with the requirements for practice, and are vital in enabling students to meet graduate outcomes and industry standards (Billett, Cain, & Le, 2016). Practice-based experiences are fluid, and the nature, kind and quality of each student's experience are variable; therefore, practice-based experiences alone may not achieve these goals. Interventions that consolidate, clarify and extend the learning opportunity beyond clinical experiences are important to incorporate into curricula. Educators are in the ideal position to make use of pedagogies to enhance learning from these practice-based experiences. Billett (2015) has previously proposed that the optimal time to deliver linked educational interventions is immediately after students have completed their practice-based experiences. This is a time when students have opportunities to share, compare and engage critically in considering how practicum experiences have impacted on their learning. Reflective writing is one post-practicum approach that has merit in facilitating this process. Engaging learners through a process of reflection and reflective writing challenges them to link, consolidate, clarify and extend their learning (Horton-Deutsch & Sherwood, 2017). Bass, Fenwick and Sidebotham (2017, p227) argue:

> … reflective practice is considered an essential aspect of personal and professional development as a health professional, and critical reflection is considered the cornerstone of being an accountable and autonomous practitioner.

L. Sweet (✉) · K. Graham
Flinders University, Adelaide, Australia
e-mail: linda.sweet@flinders.edu.au

J. Bass
Griffith University, Gold Coast, QLD, Australia



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_7

Reflective practice has the potential to create transformative learners who cultivate self-awareness and apply critical reasoning processes that question action as practice and reassess what is known (Sherwood & Horton-Deutsch, 2017). Reflection is one of the main learning approaches endorsed by professional, statutory and regulatory bodies to promote the development of knowledgeable and competent practitioners. Developing reflective capacities is, therefore, an important but often overlooked component of the curriculum (Fook & Gardner, 2007; Horton-Deutsch & Sherwood, 2017; Taylor, 2006). In this chapter reflective writing, as one approach to reflective practice, is explored within the context of midwifery continuity of care experiences as a post-practicum intervention. Evidence and insights on the benefits of this educational activity are drawn from a study that investigated whether changing the pedagogical instructions and resources for reflective writing would enhance the quality and depth, of undergraduate midwifery student's reflection on the practicum experience continuity of care experience.

## 7.2 Midwifery as a Practice-Based Profession

Midwifery has a strong heritage of being a practice-based profession. Students are required to learn propositional occupational knowledge taught in education settings and link this with the dispositional and procedural knowledge required for professional practice (Sweet & Glover, 2011). Educators have an important role to engage pedagogic activities that support learning and maximise the post-practicum potential. There are numerous models for practice-based experiences, and midwifery is one profession that employs unique practice-based experiences compared with other health professions. To understand the importance of post-practicum pedagogies that support midwifery students, it is valuable to understand midwifery education programmes and pathways to professional practice.

### *7.2.1 Midwifery Education in Australia*

As with other health-care professions, midwifery students are required to undertake extensive practice-based experiences within their programmes. In Australia the Australian Nursing and Midwifery Accreditation Council (ANMAC) regulates the educational requirements of programmes that lead to registration as a midwife. Midwifery entry to practice programmes across Australia ranges in structure, from a standard 3-year bachelor's degree and 18–24-month graduate entry bachelor's degree through to 4-year double degree (including Bachelor of Nursing and Bachelor of Midwifery), 12–18-month graduate diploma and 18–24-month master's degree. The variations occur pending the students past academic qualifications and whether they are registered as a nurse with the Nursing and Midwifery Board of Australian (NMBA). Currently, ANMAC requires that theory and practice-based experiences

are integrated in equal portions throughout midwifery programmes (ANMAC, 2014). Whilst a minimum number of hours are not predetermined for accreditation, education providers must demonstrate equal portions of theory and practice in their programmes. In addition, practice-based experiences are to be incorporated as early as possible in the first year of the programme and be of sufficient quantity to meet the practice standards (ANMAC, 2014). The standards mandate the minimum number of specific practice experience requirements as well as competence development of knowledge, skills and attitudes for professional practice. Moreover, the standards mandate that education providers are required to incorporate learning activities into curricula that encourage the development and application of critical thinking and reflective practice. Therefore, the pedagogical instructional activities to develop reflective capacities are very important considerations for curriculum development and educational design.

Practice-based experiences in midwifery education derive two different forms: the first is the traditional placement models and the second a continuity of care model whereby the student engages longitudinally with women and their healthcare providers. Traditional placement models see the student being allocated shifts in a health service, where they work alongside whichever staff are rostered on for the day and care for whichever women they are allocated to (Sweet & Glover, 2013). In contrast, the continuity of care model is longitudinal and occurs over many months with intermittent engagements between the student, woman and the healthcare provider (Sweet & Glover, 2013). Continuity of midwifery care is defined as the woman's ability to have a 'known' midwife provide care across pregnancy, labour and birth and the early transition to motherhood (Renfrew et al., 2014). There is strong evidence to show that women who access maternity care from a model that offers continuity of midwifery care have better outcomes for themselves and their babies (Sandall, Soltani, Gates, Shennan, & Devane, 2016). Additionally, Homer (2016) highlights the benefits of continuity of care models for midwives, including lower burnout scores and higher professional satisfaction compared to midwives working in traditional hospital models. To prepare the future midwifery workforce to work in evidence-based models where they work to the full scope of practice providing continuity of midwifery care, ANMAC requires students to complete a minimum number of continuity of care experiences (COCEs) in midwifery programmes (ANMAC, 2014). It is therefore an important consideration for future employability that students are exposed to midwifery continuity of care and that educators maximise the learning available to them from this practice-based model.

### *7.2.2 Continuity of Care Experiences (COCEs)*

Initially called 'follow-through experiences', COCEs have been included in midwifery education in Australia since 2002 (Tierney, Sweet, Houston, & Ebert, 2017b). A COCE refers to an ongoing midwifery relationship between a student and a woman from initial contact in pregnancy through to the first few weeks immediately

after birth and occurs across the interface of community and individual health-care settings (ANMAC, 2014). The intention of this experience is to enable students to experience continuity of care with individual women irrespective of the maternity carer chosen by the woman or the availability of midwifery continuity of care models (ANMAC, 2014). COCEs are longitudinal, involving multiple points of contact between the student and woman across the childbirth continuum. ANMAC (2014) makes clear that students must 'maintain a record of each engagement incorporating regular reflection and review by the education or health service provider' (ANMAC, 2014 p.24). Through the COCE students learn to be independent intentional agents, responsible for managing their own learning (Sweet & Glover, 2011). As such, participating in the COCE is considered to provide a true authentic learning experience that is pedagogically rich, affording the student an opportunity to develop midwifery philosophy, practice and self-identity (Aune, Dahlberg, & Ingebrigtsen, 2011; Browne, Haora, Taylor, & Davis, 2014; Ebert, Tierney, & Jones, 2016; Glover & Sweet, 2013; Gray, Leap, Sheehy, & Homer, 2013; McKellar, Licqurish, Dove, & Gray, 2013; McLachlan, Newton, Nightingale, Morrow, & Kruger, 2013; Sweet & Glover, 2011; Yanti, Claramita, Emilia, & Hakimi, 2015). Such outcomes, however, may not arise from these experiences alone; they need to be augmented. Reflective practice is one approach to provide students guidance to examine and question assumptions, values and perspectives and create new understandings and new practice approaches.

The current evidence suggests the COCE is valuable in providing students with an opportunity to learn, develop and practise skills that enhance their ability and awareness of woman-centred care (Tierney, Sweet, Houston, & Ebert, 2017a). Indeed Gray, Taylor and Newton (2016) reported that students felt the learning they gained from their COCEs was 'profound' and for many was the highlight of their midwifery education. However, clinical experiences alone do not guarantee learning. The clinical opportunities the student has are dependent on a number of factors, such as (1) type and year level of programme they are in (their prior knowledge and experience), (2) the affordances provided in the clinical setting (by individual clinicians and/or the woman herself), (3) the individual engagement of the student (number of contacts and willingness to participate in care) and (4) the level of support and facilitation for learning by the education provider and clinical venue (pedagogical support) (Billett & Sweet, 2015; Billett, Sweet, & Glover, 2013; McKellar, Charlick, Warland, & Birbeck, 2014; Sweet & Glover, 2011). Differences of this nature can result in highly variable learning experiences for students (Billett & Sweet, 2015; Gray, Leap, Sheehy, & Homer, 2012; McLachlan et al., 2013).

In seeking to address possible variations in experiences, Sweet and Glover (2011) argued that there were 'teaching' activities that could be intentionality enacted to support students, promote agency and maximise learning experiences before, during and after the COCE had occurred. The central feature of these teaching activities was the ability and capacity of the student to reflect in and on practice (Sweet & Glover, 2011). Indeed, as presented above, being a reflective practitioner is a core competence for midwifery practice and therefore needs to be integrated into midwifery curricula and the COCE. Billett (2015) argues that regardless of predetermined

requirements and profession-specific standards, there needs to be pedagogical consideration as to how best to develop occupationally specific knowledge, including the critical and reflective capacities required of health professionals.

Reflection is known to be of benefit in supporting learning from experience (Dewey, 1933), for the generation of knowledge in and on practice (Schön, 1983), to enable integration of theory and practice (Boud, Keogh, & Walker, 1985), to consider oneself in action (Cranton, 1996) and to develop critical thinking (Brookfield, 2010; Rolfe, Freshwater, & Jasper, 2001; Taylor, 2000) and perspective transformation (Mezirow, 1997). Reflective practice is considered an essential aspect of personal and professional development as a midwife (Bass, Walters, Toohill, & Sidebotham, 2016; Collington & Hunt, 2006), and critical reflection is considered the cornerstone of being an accountable and autonomous practitioner (ANMAC, 2014; Fook & Gardner, 2007). Reflective practice is not only an expected skill of most health professionals but one that clinicians highly value (Billett et al., 2016). It is, therefore, a significant post-practicum pedagogical activity to enhance learning and worthy of effortful consideration.

## 7.3 Reflective Practice

To reflect is to think deeply or carefully about something; to be reflective is to be deeply thoughtful. Despite the large volume of writing on reflection and reflective practice, the literature often fails to adequately define the concept or alternatively provides multiple definitions and conceptualisations of what it is and how it may be done (Sherwood & Horton-Deutsch, 2017). To address this concern Nguyen, Fernandez, Karsenti and Charlin (2014) undertook a systematic review of reflective practice within the context of literature pertaining to health-care professionals. They concluded that reflection should be defined as:

> … the process of engaging the self in attentive, critical, exploratory and iterative interactions with one's thoughts and actions, and their underlying conceptual frame, with a view to changing them and a view on the change itself. (Nguyen et al., 2014, p.1176)

In essence, reflection is about learning to 'think well' (Dewey, 1933) and requires the person to review and make sense of their experiences, and themselves, so that current and future situations can be guided appropriately (Naber & Markley, 2017). Critical reflection is about unsettling individual assumptions to bring about social changes (Fook & Gardner, 2007 p.16). Reflective practice engages learners in formal and self-directed learning activities and is supportive of transformational learning. Reflective practice is therefore integral to learning and a useful post-practicum pedagogy to consolidate, clarify and extend learning beyond practice-based experiences with the specific aim of preparing students for the workplace and their future practice.

Reflective practice involves comparing the theory of practice, what students learn in the university setting, with what clinicians actually 'do', that is, students

experiencing midwifery practice in the clinical environment and then integrating existing knowledge with new insights and understandings to consider ways of performing future practice (Johns, 2000). This learning is facilitated by an iterative approach to reflection that generates professional knowledge and skills grounded in practice, achieved during and after clinical practicum, also known as in and on practice (Schön, 1983). To do this, the learner needs to develop the skills of critical reflection. Employing reflection in and on practice, that is, examining knowledge and experience, helps learners identify, understand and avoid ritualistic or routine approaches to care (Sherwood & Horton-Deutsch, 2017; Thorpe, 2004).

Reflection is a lifelong learning process based on inquiry that helps the novice learner develop towards expert practice (Sherwood & Horton-Deutsch, 2017). Recalling and thinking about an experience, and sharing stories, is a common human trait but not necessarily transformational. To become truly reflexive is to think critically about experience, to apply a systematic process to consider actions and responses and to transform one's perspective for future practice. Therefore, reflective practice is a learned skill; it is student centred and guides the learner to develop tacit knowledge and clinical judgement (Sherwood & Horton-Deutsch, 2017). There can be little doubt that learning through reflection is more effective if the process incorporates a structured approach where the development of reflective capacity is scaffolded (Boud et al., 1985; Larrivee, 2008; Schön, 1983; van Manen, 1977). When scaffolding the learning of reflective practice is combined with a staged approach that guides learners, the depth and breadth of one's ability to develop reflective capacity are enhanced (Johns, 2000, 2004; Platzer, Snelling, & Blake, 1997). Thus, it is important that any model of reflection used to foster the development of critical reflection includes a structured set of activities that develops reflective practice as a theoretical understanding of day-to-day practice (Fook, White, & Gardner, 2006).

Teaching critical reflection is therefore a significant pedagogical consideration. Smith (2011) argues that pedagogies should include both the assimilation of subject knowledge and the development of confidence to question and adapt that knowledge with the aim to guide students to think and 'find voice' to make judgements to guide practice. Morrow (2010) identifies 16 different pedagogic activities to engage students in reflective practice. These include forms of reflective writing, reflective summaries, diagrammatic representations, creative representations, perspective taking and interactions (Morrow, 2010). Noveletsky-Rosenthal and Solomon (2001) tested a model of structured reflection for writing and found it to be beneficial in enabling students to develop self-awareness and their caring potential. Johns (2004, 2009) has demonstrated the impact of guided reflection on knowing and realising desirable practice. In his work, Johns demonstrated that the use of a model of structured reflection enabled practitioners to develop solution focused thinking and worked towards resolving the feelings and contradictions that practitioners are frequently faced with. Embo, Driessen, Valcke and Van Der Vleuten (2014) explored midwifery students' perceptions of two reflective writing activities, immediate reflection-on-action and delayed reflection-on-competency-development. Detailed reflection immediately after a challenging learning experience and broad reflection

on progress appeared to serve different learning goals and consequently require different pedagogical arrangements (Embo et al., 2014 p.602) with students' reflection in new experiences being the most valuable. In subsequent work, Embo, Driessen, Valcke and van der Vleuten (2015) observed a moderate correlation between reflection ability and clinical performance scores. Fernández-Peña et al. (2016) used a self-report survey to elicit third-year nursing students' perceptions of a reflective writing portfolio. They found the reflective writing helped them to better understand themselves, optimise their strengths and discover additional training needs but found they had low motivation and lack of familiarity with this type of learning and concern about the grading criteria (Fernández-Peña et al., 2016). Bass et al. (2016) reported the positive value of teaching reflection in action through guided reflexive conversations, enacted during monthly student support circles. Similarly Gallagher et al. (2017) have demonstrated the acceptability of weekly group reflective sessions for midwifery students on clinical placement. Indeed both solitary and group reflective activities have been shown to contribute to the development of a midwifery philosophy and sense of 'being' a midwife rather than 'doing' midwifery (Hunter & Warren, 2013). Bass et al. (2017) have proposed that reflective writing in combination with other reflective activities generates midwifery knowledge from practice, integrates theory and practice and assists in monitoring development of reflective capacity and reflective practice development. Having reviewed reflective writing in nursing programmes, Naber and Markley (2017) conclude that educators must explore the best ways to be reflection facilitators and develop assignments that truly foster reflection. Whilst recognising the many ways reflection may occur and the value of dialogical conversations for reflection, this project focused on written reflection as is required by ANMAC as evidence for the COCE.

## 7.4 Reflective Writing as a Pedagogical Intervention: Applying Theory to Practice for Midwifery Education

Reflecting on practice is valuable pedagogy to augment the educational worth of practice-based experiences. Reflective writing is a post-practicum educational intervention that enables students to develop their capacities for coping in the workplace and to promote their critical thinking and improve practice. Reflective writing provides students with an opportunity to share, compare and critically consider what they have experienced as well as addressing important educational goals associated with the development of their occupational knowledge (Billett et al., 2016). Reflective writing can help students to synthesise theory and practice-based experiences; develop self-awareness; promote professional growth and behaviours; develop conscious awareness of emotional responses, personal biases and beliefs; as well as build critical thinking skills (Naber & Markley, 2017). This project sought to improve midwifery students' capacity to reflect on practice through enhancing their reflective writing on the COCE. This next section describes our educational problem and how we set out to improve it.

As previously outlined, the midwifery educational standards require that midwifery students engage in COCE and provide evidence of reflection and review from these practice-based experiences. The Bachelor of Midwifery Program at Lakeland University requires students to complete 20 COCE across the course of the degree, commencing in first year. Previous research into the pedagogical value of the COCE had identified that much of the students' writing was descriptive rather than reflective, providing poor evidence of their reflective capacity (Glover & Sweet, 2016; Sweet & Glover, 2011). Indeed, descriptive writing in reflective journals in the absence of a model or framework writing cues has been identified in other health and social care professions (Fook & Gardner, 2007; Sherwood & Horton-Deutsch, 2017). Whilst it is recognised that descriptive writing helps develop consciousness of one's actions with a focus on reflection-on-action (Armstrong & Sherwood, 2017), our aim was to develop critical reflective capacities. This required a more structured and guided reflective process. To address this, we undertook an educational design research project to improve the students' capacity as reflective practitioners, with the focus on critical reflective writing.

The broad aim of the project reported here was to explore and enhance reflective writing as a mechanism to augment post-practicum experiences. We were concerned with understanding whether improved preparation of midwifery students about the value and importance of reflection and whether a structured guided approach to reflect on practice would improve their reflective writing and thus provide evidence of their capacity to reflect on practice-based experiences post-practicum. This, if achieved, was anticipated to result in students being better prepared for the workplace and the complexity of real practice following graduation. To do this, we used a pre- and post-intervention design. This research and the core findings of this work have been published in *Women and Birth* (Sweet, Bass, Sidebotham, Fenwick, & Graham, 2018). Here, we further discuss the project and outcomes incorporating data from Lakeland University and comparing it to data from Freshwater University where midwifery students' critical reflection is more developed.

### *7.4.1 Methodology*

Education design-based research was the chosen method to address the research objective due to its problem resolution focus. Educational design-based research can be summarised as defining a problem, identifying solutions from within the available research knowledge and applying them in the field to refine and define the utility of the local solution, aiming for a more global applicability (Akkerman, Bronkhorst, & Zitter, 2013; McKenney & Reeves, 2012). Educational design-based research is not limited in methodological approach, using an iterative approach to address the problem, through intervention testing in educational settings. Therefore, a staged mixed-method education design research approach was used.

#### 7.4.1.1 Stage One

The first stage of the project was to scope the reflective practice literature and determine a fit-for-purpose model. Historically midwifery academics have drawn from models of reflection predominantly designed for nursing and/or education to guide the development of reflective practice. These models however do not reflect the woman-centred and holistic philosophy that underpins midwifery practice. At Lakeland University (a pseudonym), students were previously provided in first year with the Gibbs (1988) reflective cycle as a framework from which to consider reflection. Students engage with COCE from first year and are required to provide reflective writing following their experiences. The reporting template for the COCE included two open boxes titled 'Reflection' and 'Learning' with very brief instructions. An example was provided within the portfolio; however, it did not follow a particular reflective model in structure. During this first stage, the chief investigator became aware of the Model of Holistic Reflection designed specifically for midwifery (Bass et al., 2017), resulting in an invitation to collaborate on the study. The subsequent role of Ms Bass was to prepare and provide education and resources to staff and students on the use of the model. She was not involved in analysing the collected data, as this was undertaken by the co-authors from Lakeland University.

The Model of Holistic Reflection offers a structured, scaffolded and staged approach within a holistic continuum incorporating reflection, critical reflection and reflexivity (Sweet et al., 2018). It therefore promotes reflection at a much deeper level than the Gibbs model, previously in use. The Model of Holistic Reflection integrates midwifery and educational philosophy and was designed to promote transformative learning at a personal and societal level. The model offers a structured, scaffolded and staged approach within a holistic continuum incorporating reflection, critical reflection and reflexivity. Detailed discussion of the development and theoretical basis of the model is provided elsewhere (Bass et al., 2017).

In overview, this model incorporates six interdependent phases embedded within a circular design reflecting the iterative rather than linear nature of reflection (see Fig. 7.1). Each phase is integrated to promote critical reflection at a deep personal level, contributing to the development of holistic reflective practice throughout the continuum of the learning cycle (Sweet et al., 2018). The processes involved should be iterative, progressive and spiral from practice to theory and theory to practice. Furthermore, the model makes explicit the forms of knowing used to make sense of midwifery practice, including Carper's (1978) typology and Habermas' (1979) emancipatory knowing, that reflects the critical theory continuum to the development of holistic reflective practice (Bass et al., 2017).

Learning to reflect using the Model of Holistic Reflection challenges the student to think and write in a holistic manner including reflection on personal thoughts and feelings. In the first three steps of the model, students are invited to identify their reactions (i.e. 'thoughts and feelings') arising from concrete experience and reflect at a deep and personal level. This represents an approach not usually associated with writing in an academic context. This process contributes to consciousness raising

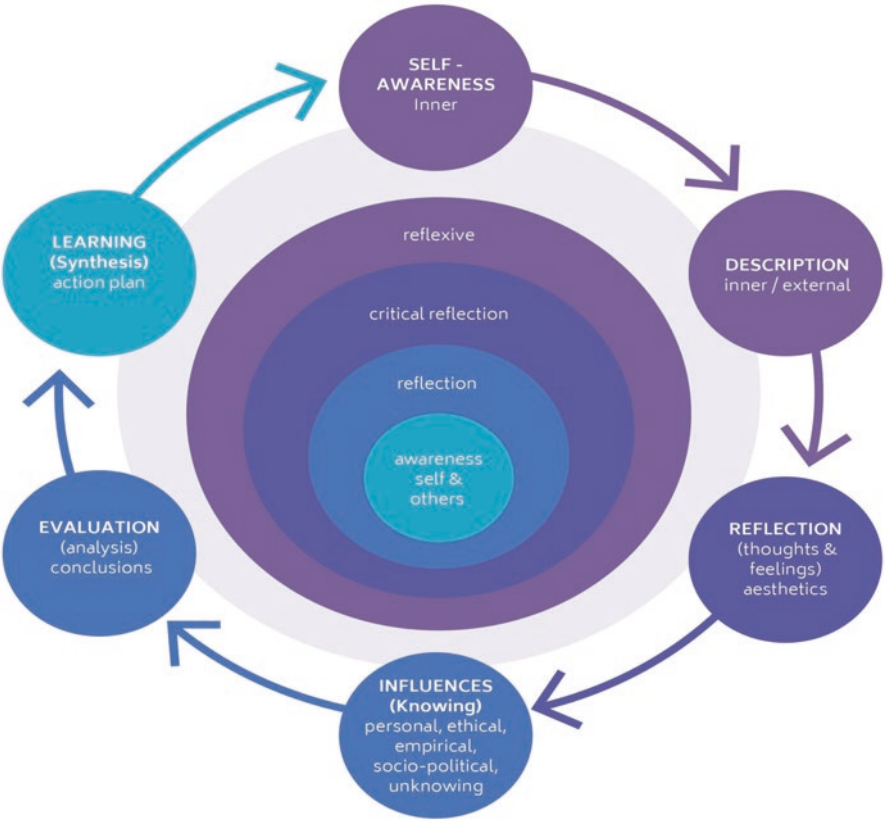


**Fig. 7.1** The Model of Holistic Reflection (Bass et al., 2017 p.231)

which involves the emotional aspects of reflective learning. When using a reflective approach, the student examines and writes about experiences, exploring what has developed or changed at a personal level. In this way, reflection is a deep, personal and individual process. However, guided by critical reflective writing approach, students can examine the assumptions that shape their thinking and practice. Students can become aware that the perspectives they hold are formed through their personal knowledge gained through experience and the people with which they interact. They are then able to identify the assumptions that they make based on that perspective and how those assumptions influence their thinking. Critical reflective writing involves questioning of assumptions, reflection on social and individual perspectives, analysis of power relations and the pursuit of emancipation (Fook & Gardner, 2007). This pursuit involves critical self-reflection about personal assumptions that help the individual evaluate their reflection ultimately leading to perspective transformation (Brookfield, 2010; Mezirow, 1997). In step 4, 'knowing' the student uses different forms of reflection, namely, technical, practical and emancipatory, to explore different perspectives (Taylor, 2006). This includes technical rationality or

instrumental learning where students want to use a scientific and hypothetic-deductive approach to solve problems (Habermas, 1979). This kind of learning involves language, interactions and intuition to discover meaning in the art of midwifery practice. Making clear what is known and why is important to justify clinical decision-making. This clarity is pivotal to critical reflection that is concerned with the 'know why' rather than 'know what or how'.

In Phase 5 'evaluation', the student uses critical reflection to stand back and evaluate the experience in an objective manner to reassess and identify what has been learned and what this means for the future. In Phases 3 'reflection' and 5 'evaluation', students are invited to critically reflect on ideas, assumptions and feelings, to question what, when, how, where, who and why. This helps them to begin to develop the capacity for critical reflection by examining the relationship between facts and ideas, testing against theories to discover alternative ways of understanding. This model embeds self-assessment throughout each of six interrelated phases and specifically in Phase 6: learning. This final phase involves students adopting critical stances in relation to their journey of becoming reflective practitioners. They may not only critically reflect on the experience and what they have learned but also on how they have learned. This helps them to develop the skills of autonomy, independence and lifelong learning identified as characteristics of an autonomous practitioner. These are essential life skills for the midwife's role working in health-care organisations that are complex and subject to constant change creating stress and uncertainty. Whilst recognising the multiple reflective practice models available, the Model of Holistic Reflection was selected for this study as it has consistent concepts with other similar models and guides students through a holistic woman-centred framework.

#### 7.4.1.2 Stage Two

The Model of Holistic Reflection was new to staff and students at Lakeland University and had been incorporated into both written and dialogic-reflective activities at Freshwater University (a pseudonym) (Bass et al., 2017; Bass et al., 2016). This provided an ideal opportunity to compare reflective writing outcomes across the two programmes.

The intervention was the implementation of change of reflective writing preparation and instructions to students, whereby all midwifery students at Lakeland University were provided written and verbal guidance and online resources on how to use the Model of Holistic Reflection to structure their written reflections. During a 12-month period, students' written reflections completed before and after the introduction of the model were evaluated using a rubric (also called a scoring framework) and the outcomes analysed descriptively. As the reflective writing artefact was a requirement of the curriculum, approval to use the submitted artefacts without the need for individual students' consent was granted by both universities' ethics committee (Approval numbers 7288 and 2016/832). This was to reduce the 'Hawthorne effect', whereby participants may consciously change their behaviour/output knowing they were in a research study.

All students' written reflections were submitted through the university online learning management system or with the hard copy of their portfolio for marking. A convenience sample of copies of submitted reflections in semester one 2016 was collected from both universities and de-identified, seeking no more than two from any individual student. There are multiple entry pathways for the Bachelor of Midwifery at Lakeland University. Students without a Registered Nurse qualification enter into a 3-year programme and will be represented as Yr1, Yr2 or Yr3, depending on the stage they were at in the programme. The Registered Nurse Entry pathway is an accelerated programme usually undertaken over 2 years, and these students are referred to as RN1 and RN2, which equate to Yr2 and Yr3 in the 3-year programme. The midwifery students who hold registration as a nurse are expected to have developed reflective practice skills in their nursing education. Students from Freshwater University involved in this study were all undertaking a 3-year bachelor programme and will be represented as Yr1, Yr2 or Yr3. Neither of these programmes are double degrees; they are both Bachelor of Midwifery programmes, with accelerated pathways for student registered as nurses. There were 130 artefacts from Lakeland University for analysis based on the 'old model and instructions' and 31 from Freshwater University based on the model. Following the introduction and commencement of using the Model of Holistic Reflection, 96 artefacts from Lakeland University and 21 from Freshwater University were collected. The Lakeland University student's reflective writing was about their COCE, whilst the Freshwater University students' task was different – they were still reflective writing pieces, using the same model; therefore analysis was focusing on process rather than direct content.

For assessment purposes, a rubric was developed to specifically assess the development of critical reflective capacity, reflexivity, perspective transformation, holistic midwifery practice and writing style (Sweet et al., 2018). The rubric has each element weighted differently across each year of the programme to reflect the different levels of reflection and progressive development expected with progressive experience (see Table 7.1). For example, the weighting of the higher-order processes of 'reflection and reflexivity' and 'critical thinking' increases in weight across first, second and third years, as it is anticipated these skills will be developed in their writing. Consequently, lower-level processes such as 'self-awareness and insight' and 'style, language and integrity' reduce in value as the student progresses

**Table 7.1** Relative weighting of each section of rubric by year level (Sweet et al., 2018)

| | Self-awareness and insight | Evidence of midwifery knowledge | Reflection and reflexivity | Evidence-informed practice | Critical thinking | Style, language and integrity |
|---|---|---|---|---|---|---|
| Yr1 | 20% | 20% | 20% | 15% | 10% | 15% |
| Yr2 + RN 1 | 10% | 20% | 25% | 15% | 20% | 10% |
| Yr3 + RN 2 | 5% | 20% | 30% | 15% | 25% | 5% |

through the programme. This ensures that each phase of reflective process is assessed in a holistic and integrative manner, and students are able to demonstrate development of skills over time. Each year of the programme expected the student to achieve a deeper level of critical reflection that informs and reflects the developing epistemology of midwifery practice (Bass et al., 2017). Students at Lakeland University were not shown the rubric – it was applied for the research only, whereas the rubric was in regular use for students at Freshwater University. A small sample of ten papers was moderated between two independent markers from the two universities to ensure consistent application of the rubric. All artefacts were subjected to marking based on the rubric by these two academics who were not the primary researchers. Any reflections that were difficult to assess were further moderated.

The primary results across both institutions and for all year groups, pre- and post-intervention, are shown in Table 7.2. The figures presented are the mean scores for all written submissions in each category. Table 7.2 clearly shows that the pre-intervention scores of students at Lakeland University ranked poorly as evidence of reflective capacity. For example, the more experienced students (Yr 3 and RN2) scored lower than their less experienced counterparts (Yr 1 students) with first year students having the highest scores across the 3-year programme. Indeed, had year 3 students' scores been officially measured using the reflective writing rubric, they would have received a failed grade had the pass mark been set at 50%. Pre-intervention scores at Lakeland University were also much lower than the scores obtained at the same time from Freshwater University. Interestingly, it is clear that the students from Freshwater University, who had been using the Model of Holistic Reflection across their entire 3-year undergraduate programme, demonstrated developmental improvement in their reflective capacity, evidenced by the rising average marks across the year groups. Post-intervention all students at Lakeland University had improved scores with all reaching a minimal pass level of 50% (Sweet et al., 2018).

The variation of scores from pre- to post-intervention is shown in Table 7.3. This shows improved scores for Lakeland University student of between 14% and 57% (mean of 31.2% improvement). The highest changes at Lakeland University were found in the writings of the senior students (RN2 and Yr3). Changes were less evident at Freshwater University, which is not surprising given there was no change in process for the purpose of this study. The institutional comparison post-intervention when students were using the similar processes shows Lakeland University scores to be very similar to the average at Freshwater for year 1 (74% compared to 74.4%) and year 2 (69.4% compared to 70.4%). There were very low numbers of submissions written by third-year students at Lakeland University post-intervention and none from Freshwater University, preventing a valid comparison. However, given Freshwater University writing was not exposed to the intervention, there is a notable difference for the mean score of RN2 plus Yr3 Lakeland *University* students post-intervention (67%) compared to 87.6% for the Freshwater University students at the first time point collection.

The findings of this pre-and post-intervention study have shown that the introduction of the Model of Holistic Reflection and the associated support and resources made a significant improvement in the written reflections for the COCE across all years for Lakeland University students.

**Table 7.2** Outcome of marking against weighted rubric (Some of this data has been presented in Sweet et al. (2018))

| Venue | Time | Student group | N | Self-awareness and insight | Evidence of midwifery knowledge | Reflection and reflexivity | Evidence-informed practice | Critical thinking | Style, language and integrity | Total score out of 100 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lakeland University | Pre-intervention | RN1 | 16 | 5.9 | 11.8 | 15.9 | 7.1 | 11.9 | 6.6 | 59.2 |
| | | RN2 | 21 | 2.2 | 11.0 | 15.3 | 6.4 | 11.2 | 3.1 | 49.2 |
| | | Yr1 | 10 | 12.4 | 11.9 | 12.2 | 8.2 | 4.8 | 10.4 | 59.9 |
| | | Yr2 | 39 | 5.4 | 11.9 | 14.1 | 8.1 | 9.8 | 6.6 | 55.9 |
| | | Yr3 | 44 | 2.1 | 8.2 | 12.7 | 5.0 | 7.8 | 3.0 | 38.8 |
| | Post-intervention | RN1 | 24 | 6.8 | 13.4 | 17.5 | 9.7 | 12.8 | 7.1 | 67.3 |
| | | RN2 | 33 | 3.5 | 14.0 | 20.1 | 10.4 | 15.9 | 3.8 | 67.7 |
| | | Yr1 | 11 | 15.1 | 14.4 | 15.7 | 9.9 | 6.9 | 12.0 | 74.0 |
| | | Yr2 | 24 | 7.1 | 14.0 | 17.9 | 9.7 | 13.4 | 7.3 | 69.4 |
| | | Yr3 | 4 | 3.3 | 12.5 | 20.8 | 9.4 | 11.2 | 3.6 | 60.8 |
| Freshwater University | Sem 1 | Yr1 | 14 | 13.0 | 14.0 | 13.3 | 9.8 | 5.0 | 10.5 | 65.6 |
| | | Yr2 | 7 | 7.0 | 14.5 | 17.5 | 10.5 | 14.5 | 7.0 | 71.0 |
| | | Yr3 | 10 | 4.2 | 18.0 | 26.0 | 13.5 | 21.9 | 4.0 | 87.6 |
| | Sem 2 | Yr1 | 14 | 15 | 16.0 | 14.7 | 11.2 | 7.0 | 10.5 | 74.4 |
| | | Yr2 | 7 | 7.5 | 14.5 | 16.7 | 11.2 | 13.5 | 7.0 | 70.4 |

**Table 7.3** Percent variation for scores pre- to post-intervention

| University | Student level | Pre-intervention | Post-intervention | % Variation |
|---|---|---|---|---|
| Lakeland University | RN1 | 59.2 | 67.3 | +14% |
| | RN2 | 49.2 | 67.7 | +37% |
| | Yr1 | 59.9 | 74.0 | +24% |
| | Yr2 | 55.9 | 69.4 | +24% |
| | Yr3 | 38.8 | 60.8 | +57% |
| Freshwater University | Yr1 | 65.6 | 74.4 | +13% |
| | Yr2 | 71.0 | 70.4 | −0.01% |
| | Yr3 | 87.6 | – | – |

To highlight the value of the change that occurred as a result of introducing the structured Model of Holistic Reflection and associated templates, a vignette exploring the experiences of one 3rd year student from Lakeland University (Heather) is presented. The vignette demonstrates the importance and value of true reflection on practice and how both structure templates and facilitation can enhance this.

Heather is in her final year of her Bachelor of Midwifery programme and, whilst confident in her knowledge and midwifery skills, struggles with the reflective writing component of her degree, particularly for her continuity of care experience (COCE) reflections. The COCE, where she is supporting women during their pregnancy, labour and birth and transition to motherhood and learning from experienced midwives, has been the highlight of her degree programme. However, when it comes to reflecting on each experience, she finds it difficult to articulate what the experiences mean to her and her development as a midwife. Her lecturers have provided feedback that her COCE 'reflections' are more summaries of the care she has provided to each woman and that she needed to demonstrate reflection on what each experience means for her learning and midwifery practice.

Her COCE facilitator, Ann, offers to help Heather develop her reflective skills. At their first session, Heather says up front 'I just don't "do" reflection! It just doesn't come naturally to me, I don't know how to do it. I think if my care is good, and the women are happy, then that should be enough'. Ann reminds Heather of the reflection workshop where they had discussed the importance of reflective practice in midwifery and that looking back and reflecting upon and learning from experiences enable us to gain a greater self-awareness and understanding to provide better midwifery care in the future. Heather agrees that 'it probably is worth doing' but is still unsure about where to start. Ann encourages Heather to try using the new Holistic Model of Reflection as a way of helping her understand the different components of reflection and to write her COCE reflections in a structured way to deepen her level of learning. Ann asks Heather to read the resources on the use of the model, to rewrite her reflection of her most recent COCE and to meet with her next week to go through her work.

At this follow-up meeting, Ann and Heather review and talk about what she has written for each step of the model. Heather has firstly written about her thoughts and feelings about the COCE, describing that she had initially felt an immense sense of responsibility as this was Pam's first pregnancy, and her partner David was often away for work. Despite this, she had written that she also felt that as a third-year midwifery student, she was ready for the responsibility and that it was important that Pam had someone she knew provide her with continuous support through her maternity journey. Heather had continued to describe her most memorable experience: supporting Pam during her labour, as David rushed from the airport just in time to welcome their baby. Heather had been able to provide most of the midwifery care, with the support of the midwife, and together Heather and the midwife supported Pam to make the decisions about her labour and birth in partnership. Heather recalled her feelings of absolute elation and relief when Pam birthed her baby and that it was at this moment, she realised this was what 'woman-centred care' was all about and that midwifery was truly her professional calling. Heather's new reflection then went on to describe the knowledge she had applied to support her decision-making and midwifery care during the COCE and what she could have done differently, such as inviting David to cut the cord, even in the rush of the final moments. Finally, Heather had described that this experience had provided her with a deeper understanding of the benefits of and an appreciation for midwifery continuity of care as a model of maternity care and that she is planning to explore the benefits of this care for midwives, women and their families for her future practice. Heather had written that she had been so moved by this experience, and by speaking with Midwifery Group Practice midwives, she chose to focus on it in her final literature review for another topic.

At the end of the reviewing and discussing her reflection and the process, Ann thanked Heather for sharing her experience with her and congratulated her on a wonderful reflection using the Model of Holistic Reflection. Ann then asked her to read her original descriptive write-up for this COCE again and asked her which of these reflections had helped her deepen her level of learning. Heather admitted that she had learnt a lot more about the experience and what this meant for her midwifery practice through using the Model of Holistic Reflection. She left the meeting with new understanding about the process of reflecting on practice, along with some tangible strategies for reflecting in the future. She thanked Ann for helping and continued to write quality reflections for the remainder of her degree using the Model of Holistic Reflection.

## 7.5 Discussion

The aim of this project was to firstly identify and subsequently test a post-practicum intervention to maximise the learning outcomes for midwifery COCE. The aim of the project was to begin to explore how educational interventions can augment students' practicum experiences in developing the capacities required for effective transition to employment upon graduation. To achieve this, we chose to focus on reflective writing, as this is an ANMAC requirement of midwifery curricula and had been identified as a deficit at Lakeland University. Furthermore, reflective practice is considered a foundational skill of professionals (Horton-Deutsch & Sherwood, 2017), and studies have demonstrated a direct relationship between introducing reflection to students early in preregistration programmes and continued use of reflection upon graduation (Wright, 2009).

Registered midwives are required to develop and use reflective processes in their daily midwifery work. The use of a holistic model of reflection can enhance the development of understanding and self-awareness of these values, beliefs and influences, as a mechanism to transform and improve practice. This project comprised a systematic trialling and evaluation of a structured model of reflective practice to guide reflective writing through the application of a schema of education sessions, resource development and writing templates and explored its contributions to achieving the educational goal of reflexivity. The project has demonstrated that the implementation strategies and use of the structured Model of Holistic Reflection, a structured model of reflection, guide and enable students to learn reflective practice. Furthermore, the structured model and resources enabled them to demonstrate their capacity to reflect on practice through their writing. Use of the model shifted some writing from descriptive to reflective. The use of the structured model improved all six components of the students' reflective writing, including self-awareness, evidence of sources of knowledge, reflection and critical reflection, evidence-informed practice and critical thinking and style. These components are all important for the development of reflectivity and occupational capacities.

COCE as a workplace-based model is highly variable, providing unpredictable affordances for the student, and highly variable engagement by the student. It is well accepted that the kinds and quality of students' work experiences cannot be guaranteed, and as such, post-practicum interventions are important to assist students to maximise their learning potential. Given the unpredictability of the COCE, the varied means of supervision and facilitation, mediation of these experiences through educational interventions is warranted and necessary (Sweet & Glover, 2011). Reflection is the means in which the professional bodies expect students to evidence their learning (ANMAC, 2014), and through this project, we have demonstrated that the introduction of a structured model made a significant improvement in students' reflective capacity. Furthermore, having these reflections reviewed by academic staff and feedback provided, students are able to further develop their understanding and reflective skills and find meaning in the art of midwifery practice. Evaluation and assessment is key to encouraging reflective capacity in students (Fook &

Gardner, 2007). Therefore, reflective writing should be included in a continuous assessment process that provides regular constructive feedback to the student. However, the evidence suggests that assessment of reflective writing should be formative rather than summative (Embo et al., 2014; Smith, 2011). In this project, the rubric was used only for the research, and Lakeland University students did not receive feedback in this form, rather receiving brief commentary on their reflections only, whilst for Freshwater University students, the rubric is used for summative assessment. There are many arguments about the strengths and limitation of formative versus summative assessment (Embo, Driessen, Valcke, & Van der Vleuten, 2010; Koh, 2010; Norcini et al., 2011; Norcini & Burch, 2007; Pelgrim, Kramer, Mokkink, & van der Vleuten, 2012); however further discussion here is out of scope for this chapter. What is clear is that assessment of critical reflection is complicated because of defining what it is and whether it has been understood or applied (Larrivee, 2008; Smith, 2011).

Reflective writing as a post-practicum intervention is important to mediate practicum experiences and be directed towards occupational competence. Billett et al. (2016) recognise the importance of mediation of experiences beyond the experience itself and that educational interventions are often warranted and necessary. Because of the wide variation in the way educational institutions operationalise the COCE, educational support offered to the student varies. The student follows the woman and as such may be going to unfamiliar practice environments. In such situations, formal reflective practice serves an important role. Effective reflective writing, through the use of a structured model, is therefore one way to enable the student to achieve the intended learning outcomes or ameliorate negative or inappropriate practicum experiences by exploring the experience in more depth (Billett et al., 2016). We have shown that the use of the Model of Holistic Reflection is an effective educational tool to assist students develop and evidence their reflective capacities.

Whilst the Model of Holistic Reflection (Bass et al., 2017) has been developed by midwives for midwifery practice, its structure and form are translatable to other health and social care professions. The model steps students through description, reflection, knowing, analysis and synthesis. This study has demonstrated how the use of the structured model enables students to look beyond the surface of their practicum experience and explore how the experience has contributed to their professional growth through reflective writing. For example, when students have a negative experience in their practicum, working through the six steps of the model enables them to interrogate the concrete experience in depth and therefore not just learn from the experience but learn how to move on and develop resilience. The Model of Holistic Reflection applied to reflective writing provides students with a tool to identify how they feel about the experience, what contributed to the negative experience but importantly what they have learned – and how they will use that learning in the future – what personal goals they will set and how they will achieve those goals. These are valuable skills to develop in any health practitioner and should be encouraged widely in practice.

## References

Akkerman, S. F., Bronkhorst, L. H., & Zitter, I. (2013). The complexity of educational design research. *Quality and Quantity, 47*(1), 421–439. https://doi.org/10.1080/10494821003790863

Armstrong, G., & Sherwood, G. D. (2017). Reflection and mindful practice: A means to quality and safety. In S. Horton-Deutsch & G. Sherwood (Eds.), *Reflective practice: Transforming education and improving outcomes* (2nd ed., pp. 61–76). Indianapolis, IN: Sigma Theta Tau.

Aune, I., Dahlberg, U., & Ingebrigtsen, O. (2011). Relational continuity as a model of care in practical midwifery studies. *British Journal of Midwifery, 19*(8), 515–523.

Australian Nursing and Midwifery Accreditation Council. (2014). *Midwife Accreditation Standards 2014*. ANMAC (Ed.). Canberra, Australia. Retrieved from www.anmac.org.au

Bass, J., Fenwick, J., & Sidebotham, M. (2017). Development of a model of holistic reflection to facilitate transformative learning in student midwives. *Women and Birth, 30*(3), 227–235. https://doi.org/10.1016/j.wombi.2017.02.010

Bass, J., Walters, C., Toohill, J., & Sidebotham, M. (2016). Promoting retention, enabling success: Discovering the potential of student support circles. *Nurse Education in Practice, 20*, 109–116. https://doi.org/10.1016/j.nepr.2016.07.002

Billett, S. (2015). *Integrating practice-based experiences into higher education*. Dordrecht, The Netherlands: Springer.

Billett, S., Cain, M., & Le, A. H. (2016). Augmenting higher education students' work experiences: Preferred purposes and processes. *Studies in Higher Education*, 1–16. https://doi.org/10.1080/03075079.2016.1250073

Billett, S., & Sweet, L. (2015). Understanding and appraising healthcare students' learning through workplace experiences: Participatory practices at work. In J. Cleland & S. J. Durning (Eds.), *Researching medical education* (pp. 117–127). New York: John Wiley & Sons Inc.

Billett, S., Sweet, L., & Glover, P. (2013). The curriculum and pedagogic properties of practice-based experiences: The case of midwifery students. *Vocations and Learning, 6*(2), 237–257. https://doi.org/10.1007/s12186-012-9094-9

Boud, D., Keogh, R., & Walker, D. (1985). Promoting reflection in learning: A model. In D. Boud, R. Keogh, & D. Walker (Eds.), *Reflection: Turning experience into learning*. London: Kogan Page.

Brookfield, S. (2010). Critical reflection as an adult learning process. In N. Lyons (Ed.), *Handbook of reflection and reflective inquiry: Mapping a way of knowing for professional reflective inquiry* (pp. 215–236). New York: Springer Science + Business Media.

Browne, J., Haora, P. J., Taylor, J., & Davis, D. L. (2014). "Continuity of care" experiences in midwifery education: Perspectives from diverse stakeholders. *Nurse Education in Practice, 14*, 573–578. https://doi.org/10.1016/j.nepr.2014.01.014

Carper, B. (1978). Fundamental ways of knowing in nursing. *Advances in Nursing Science, 1*, 13–23.

Collington, V., & Hunt, S. (2006). Reflection in midwifery education and practice: An exploratory analysis. *Evidence Based Midwifery, 4*(3), 76–82.

Cranton, P. (1996). *Professional development as transformative learning: New perspectives for teachers of adults*. San Francisco: Jossey-Bass.

Dewey, J. (1933). *How we think*. New York: Prometheus Books.

Ebert, L., Tierney, O., & Jones, D. (2016). Learning to be a midwife in the clinical environment; Tasks, clinical practicum hours or midwifery relationships. *Nurse Education in Practice, 16*(1), 294–297. https://doi.org/10.1016/j.nepr.2015.08.003

Embo, M., Driessen, E., Valcke, M., & Van der Vleuten, C. P. M. (2010). Assessment and feedback to facilitate self-directed learning in clinical practice of Midwifery students. *Medical Teacher, 32*(7), E263–E269. https://doi.org/10.3109/0142159x.2010.490281

Embo, M., Driessen, E., Valcke, M., & van der Vleuten, C. P. M. (2015). Relationship between reflection ability and clinical performance: A cross-sectional and retrospective-longitudinal

correlational cohort study in midwifery. *Midwifery, 31*(1), 90–94. https://doi.org/10.1016/j.midw.2014.06.006

Embo, M. P. C., Driessen, E., Valcke, M., & Van Der Vleuten, C. P. M. (2014). Scaffolding reflective learning in clinical practice: A comparison of two types of reflective activities. *Medical Teacher, 36*(7), 602–607. https://doi.org/10.3109/0142159X.2014.899686

Fernández-Peña, R., Fuentes-Pumarola, C., Malagón-Aguilera, M. C., Bonmatí-Tomàs, A., Bosch-Farré, C., & Ballester-Ferrando, D. (2016). The evaluation of reflective learning from the nursing student's point of view: A mixed method approach. *Nurse Education Today, 44*, 59–65. https://doi.org/10.1016/j.nedt.2016.05.005

Fook, J., & Gardner, F. (2007). *Practising critical reflection. A resource handbook*. Berkshire, UK: Open University Press.

Fook, J., White, S., & Gardner, F. (2006). Critical reflection: A review of contemporary literature and understandings. In J. Fook, S. White, & F. Gardner (Eds.), *Critical reflection in health and social care* (pp. 3–22). Berkshire, UK: Open University Press.

Gallagher, L., Lawler, D., Brady, V., Oboyle, C., Deasy, A., & Muldoon, K. (2017). An evaluation of the appropriateness and effectiveness of structured reflection for midwifery students in Ireland. *Nurse Education in Practice, 22*, 7–14. https://doi.org/10.1016/j.nepr.2016.11.003

Gibbs, G. (1988). *Learning by doing: A guide to teaching and learning methods*. London: Great Britain Further Education Unit.

Glover, P., & Sweet, L. (2013). The development of a conceptual model for the continuity of care experience for midwifery students. *Women and Birth, 26*, S30–S30. https://doi.org/10.1016/j.wombi.2013.08.186

Glover, P., & Sweet, L. (2016). Developing the language of midwifery though continuity of care experiences. In G. Ortoleva, M. Betrancourt, & S. Billett (Eds.), *Writing for professional development*. Leiden, The Netherlands: Brill.

Gray, J., Leap, N., Sheehy, A., & Homer, C. (2013). Students' perceptions of the follow-through experience in 3 year bachelor of midwifery programmes in Australia. *Midwifery, 29*(4), 400–406. https://doi.org/10.1016/j.midw.2012.07.015

Gray, J., Taylor, J., & Newton, M. (2016). Embedding continuity of care experiences: An innovation in midwifery education. *Midwifery, 33*, 40–42. https://doi.org/10.1016/j.midw.2015.11.014

Gray, J. E., Leap, N., Sheehy, A., & Homer, C. (2012). The 'follow-through' experience in three-year Bachelor of Midwifery programs in Australia: A survey of students. *Nurse Education in Practice, 12*(5), 258–263. https://doi.org/10.1016/j.nepr.2012.04.013

Habermas, J. (1979). *Communication and the evolution of society*. Cambridge, UK: Polity Press.

Homer, C. (2016). Models of maternity care: Evidence for midwifery continuity of care. *Medical Journal of Australia, 205*(8), 370–374. https://doi.org/10.5694/mja16.00844

Horton-Deutsch, S., & Sherwood, G. (2017). *Reflective practice: Transforming education and improving outcomes* (2nd ed.). Indianapolis, IN: Sigma Theta Tau.

Hunter, B., & Warren, L. (2013). Investigating resilience in Midwifery. *Final report*. Cardiff: Cardiff University. Retrieved from https://orca.cf.ac.uk/61594/1/Investigating%20resilience%20Final%20report%20oct%202013.pdf. Accessed 6/12/2018

Johns, C. (2000). *Becoming a reflective practitioner: A reflective and holistic approach to clinical nursing, practice development and clinical supervision*. Oxford, UK: Blackwell Science.

Johns, C. (2004). *Becoming a reflective practitioner* (2nd ed.). Oxford, UK: Blackwell Science.

Johns, C. (2009). *Becoming a reflective practitioner* (3rd ed.). Chichester, UK: John Wiley & Sons.

Koh, L. C. (2010). Academic staff perspectives of formative assessment in nurse education. *Nurse Education in Practice, 10*, 205–209.

Larrivee, B. (2008). Meeting the challenge of preparing reflective practitioners. *The New Educator, 4*(2), 87–106. https://doi.org/10.1080/15476880802014132

McKellar, L., Charlick, S., Warland, J., & Birbeck, D. (2014). Access, boundaries and confidence: The ABC of facilitating continuity of care experience in midwifery education. *Women and Birth, 27*(4), e61–e66. https://doi.org/10.1016/j.wombi.2014.08.005

McKellar, L., Licqurish, S., Dove, S., & Gray, J. (2013). Call the midwifery student: Facilitating continuity of care experience in education and practice. *Women and Birth, 26*, S43–S43. https://doi.org/10.1016/j.wombi.2013.08.134

McKenney, S., & Reeves, T. C. (2012). *Conducting educational design research*. London: Routledge.

McLachlan, H. L., Newton, M., Nightingale, H., Morrow, J., & Kruger, G. (2013). Exploring the 'follow-through experience': A state wide survey of midwifery students and academics conducted in Victoria, Australia. *Midwifery, 29*(9), 1064–1072. https://doi.org/10.1016/j.midw.2012.12.017

Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education, 74*, 1–8.

Morrow, E. (2010). *Teaching critical reflection in healthcare professional education*. Retrieved from https://pdfs.semanticscholar.org/11e1/e2d2ba2a82c381de56c0f36154e7d59e3955.pdf

Naber, J., & Markley, L. (2017). A guide to nursing students' written reflections for students and educators. *Nurse Education in Practice, 25*, 1–4. https://doi.org/10.1016/j.nepr.2017.04.004

Nguyen, Q. D., Fernandez, N., Karsenti, T., & Charlin, B. (2014). What is reflection? A conceptual analysis of major definitions and a proposal of a five-component model. *Medical Education, 48*(12), 1176–1189. https://doi.org/10.1111/medu.12583

Norcini, J., Anderson, B., Bollela, V., Burch, V., Costa, M. J., Duvivier, R., et al. (2011). Criteria for good assessment: Consensus statement and recommendations from the Ottawa 2010 Conference. *Medical Teacher, 33*(3), 206–214. https://doi.org/10.3109/0142159X.2011.551559

Norcini, J., & Burch, V. (2007). Workplace-based assessment as an educational tool: AMEE Guide No. 31. *Medical Teacher, 29*(9–10), 855–871. https://doi.org/10.1080/01421590701775453

Noveletsky-Rosenthal, H., & Solomon, K. (2001). Reflections on the use of Johns' model of structured reflection in nurse-practitioner education. *International Journal of Human Caring, 5*(2), 21–26.

Pelgrim, E. A. M., Kramer, A. W. M., Mokkink, H. G. A., & van der Vleuten, C. P. M. (2012). The process of feedback in workplace-based assessment: Organisation, delivery, continuity. *Medical Education, 46*(6), 604–612. https://doi.org/10.1111/j.1365-2923.2012.04266.x

Platzer, H., Snelling, J., & Blake, D. (1997). Promoting reflective practitioners in nursing: A review of theoretical models and research into the use of diaries and journals to facilitate reflection. *Teaching in Higher Education, 2*(2), 103–121.

Renfrew, M. J., McFadden, A., Bastos, M. H., Campbell, J., Channon, A. A., Cheung, N. F., et al. (2014). Midwifery and quality care: Findings from a new evidence-informed framework for maternal and newborn care. *The Lancet, 384*(9948), 1129–1145. https://doi.org/10.1016/S0140-6736(14)60789-3

Rolfe, G., Freshwater, D., & Jasper, M. (2001). *Critical reflection for nursing and the helping professions: A users guide*. Hampshire, UK: Palgrave.

Sandall, J., Soltani, H., Gates, S., Shennan, A., & Devane, D. (2016). Midwife-led continuity models versus other models of care for childbearing women. *Cochrane Database of Systematic Reviews*, (4), 1–118. https://doi.org/10.1002/14651858.CD004667.pub5

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic books.

Sherwood, G., & Horton-Deutsch, S. (2017). Turning vision into action: Reflection to develop professional practice. In S. Horton-Deutsch & G. Sherwood (Eds.), *Reflective practice: Transforming education and improving outcomes* (2nd ed., pp. 42–60). Indianapolis, IN: Sigma Theta Tau.

Smith, E. (2011). Teaching critical reflection. *Teaching in Higher Education, 16*(2), 211–223. https://doi.org/10.1080/13562517.2010.515022

Sweet, L., Bass, J., Sidebotham, M., Fenwick, J., & Graham, K. (2018). Developing reflective capacities in midwifery students: Enhancing learning through reflective writing. *Women and Birth*, S1871-5192(18)30011-8. https://doi.org/10.1016/j.wombi.2018.06.004. Accessed 19/6/2018

Sweet, L., & Glover, P. (2011). Optimizing the follow through experience for midwifery learning. In S. Billett & A. Henderson (Eds.), *Promoting professional learning* (pp. 83–100). Dordrecht, The Netherlands: Springer.

Sweet, L., & Glover, P. (2013). An exploration of the midwifery continuity of care program at one Australian University as a symbiotic clinical education model. *Nurse Education Today, 33*(3), 262–267. https://doi.org/10.1016/j.nedt.2011.11.020

Taylor, B. (2006). *Reflective practice: A guide for nurses and midwives* (Second edition ed.). Birkshire, UK: Open Press University.

Taylor, B. J. (2000). *Reflective practice: A guide for nurses and midwives*. Buckingham, UK: Open University Press.

Thorpe, K. (2004). Reflective learning journals: From concept to practice. *Reflective Practice, 5*(6), 327–343.

Tierney, O., Sweet, L., Houston, D., & Ebert, L. (2017a). The Continuity of Care Experience in Australian midwifery education—What have we achieved? *Women and Birth, 30*(3), 200–205. https://doi.org/10.1016/j.wombi.2016.10.006

Tierney, O., Sweet, L., Houston, D., & Ebert, L. (2017b). A historical account of the governance of midwifery education in Australia and the evolution of the Continuity of Care Experience. *Women and Birth*, In press. https://doi.org/10.1016/j.wombi.2017.09.009

van Manen, M. (1977). Linking ways of knowing with ways of being practical. *Curriculum Inquiry, 6*(3), 205–228.

Wright, J.M. (2009). The frameworks: implications for placement learning. in: A. Smith, H. McAskill, K. Jack (Eds.) Developing Advanced Skills in Practice Teaching. Palgrave Macmillan, Hampshire.

Yanti, Y., Claramita, M., Emilia, O., & Hakimi, M. (2015). Students' understanding of "Women-Centred Care Philosophy" in midwifery care through Continuity of Care (CoC) learning model: A quasi-experimental study. *BMC Nursing, 14*(1), 1–7. https://doi.org/10.1186/s12912-015-0072-z

# Chapter 8
# Using Learning Circles to Develop Intersubjectivity


**Laurie Grealish, Lyn Armit, Thea van de Mortel, Stephen Billett, Julie Shaw, Valda Frommolt, Creina Mitchell, and Marion Mitchell**

## 8.1 Intersubjectivity and Shared Work Activities

Intersubjectivity is enacted through work with others (Cody, 1995). Group work is a well-established pedagogic intervention for developing intersubjectivity. It is often structured within classroom activities and conducted over time. In classroom-based activities, group work is often focused upon assignments, preparing students to work in stable teams for extended periods of time. However, pedagogic interventions to develop the types of skills required for the temporary, fleeting and partial

L. Grealish (✉)
School of Nursing & Midwifery, Griffith University, Gold Coast, QLD, Australia

Menzies Health Institute Queensland, Griffith University, Gold Coast, QLD, Australia

Gold Coast Health, Southport, Australia
e-mail: l.grealish@griffith.edu.au

L. Armit
Gold Coast Health, Southport, Australia

T. van de Mortel · V. Frommolt · C. Mitchell
School of Nursing & Midwifery, Griffith University, Gold Coast, QLD, Australia

S. Billett
Adult and Vocational Education, Griffith University, Gold Coast, QLD, Australia

J. Shaw
School of Nursing & Midwifery, Griffith University, Gold Coast, QLD, Australia

Gold Coast Health, Southport, Australia

M. Mitchell
School of Nursing & Midwifery, Griffith University, Gold Coast, QLD, Australia

Menzies Health Institute Queensland, Griffith University, Gold Coast, QLD, Australia

Princess Alexandra Hospital, Brisbane, Australia



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_8

everyday healthcare collaborations amongst nurses, patients, families, doctors and allied health professionals are less well established through classroom-based group work processes. So, we need to find ways of providing students with the capacities to work together with other nurses and also other kinds of healthcare practitioners.

In this study, we propose learning circles as a pedagogic intervention that can develop students' openness to others' ideas, in a focused and partial account of practice. We aimed to approximate the fleeting or temporary everyday healthcare collaborations experienced by nurses by conducting the learning circles in the hospital setting, with different groups of students at each set of discussions and a focus on new clinically relevant topics at each learning circle. We investigated the feasibility of this pedagogy in the workplace setting, as well as the students' experiences of the learning circle and what they valued in that experience.

In elaborating how we adopted this approach, investigated its efficacy and evaluated its processes and outcomes, this chapter proceeds in the following way. Firstly, the literature was used to identify explanatory bases for how we might understand the processes of coming to learn shared work practices. This led us to a consideration, secondly, of learning circles as a means by which students can be engaged in articulating and sharing what they have experienced while developing the skills to work with others. Thirdly, the analysis of the concept maps that were constructed during the learning circles are presented followed by the immediate student reflections on the learning circle experience. Fourthly, a summary of the clinical facilitators' experience of conducting each of the two learning circles is provided. Finally, a summary of the findings in response to the two research questions is provided.

## 8.2 Shared Work Practices and Their Learning: A Review

Teams of administrative and operational staff members, including health professionals, typically provide healthcare services. It is rarely a solitary activity. Nurses are often, simultaneously, members of multiple teams. They work in teams of nurses over different shifts, with doctors and allied health professionals, with ward clerks and managers and with patients, clients, consumers and members of patients' families. Engaging in these therapeutic and professional relationships is a core regulatory standard for nursing practice in Australia (Nursing and Midwifery Board of Australia, 2016). In an overview of nursing theories, Cody (1995) suggests that intersubjectivity or shared understanding is essential for nursing care, with intersubjectivity in nursing commonly referring to 'the shared understanding of meaning by two or more persons either directly in relationship or over distance or time through language' (Cody, 1995, p. 52). Securing the level of intersubjectivity that enables effective working practices is, therefore, essential for nurses and nurse education.

However, to make this task more complex, nursing teams and their communication are situated locally, within specific and shifting contexts, continuously shaped and structured by the spatial and temporal environment and the person-centred care requirements for the patient (Lewin & Reeves, 2011). Hence, they are dynamic as well as highly situated. Nurses require advanced communication skills and a shared

understanding of the desired goals in order to be effective team members (Gluyas, 2015). Barriers to effective communication in health services include individual sociocultural differences, such as gender, ethnicity and education (Gluyas, 2015), and the hierarchy amongst different health professions and within professions as senior and junior staff (Nugus, Greenfield, Travaglia, Westbrook, & Braithwaite, 2010). How student nurses develop the attributes required to develop and sustain relationships in complex and continuously shifting teams is the subject of the project discussed in this chapter. In particular, how intersubjectivity can be developed following student nurses' practicum experiences is the focus of the study.

In a systematic integrative review of relevant literature, a passive, rather than active, communication pattern was found to be a barrier to effective collaboration for newly qualified nurses (Pfaff, Baxter, Jack, & Ploeg, 2014). This finding was attributed to low self-confidence, which led nurses to not challenge negative behaviours or others' opinions and to avoid conflict (Pfaff et al., 2014). However, as universities increase the use of delivery of learning online, the opportunities for students to develop essential group work skills are limited to disembodied technical communication, which tend to reproduce rather than challenge existing learning relations and differences (Baskin, Barker, & Woods, 2005). Skills for embodied collaborative working can most likely be developed through specific pedagogic interventions in work-based practice settings (Billett, 2014). This includes those in which practitioners' thinking and acting are articulated and these declarations can be gauged and evaluated by interlocutors.

The relationships that nurses develop in the workplace are essentially intersubjective processes as they seek to make sense of, and identify, the interests of various stakeholders (Pierson, 1999). Intersubjective processes can enrich understanding of a given situation by revealing other perspectives, elements and actors implicated in that situation, such as occurs in interprofessional learning. The development of this intersubjectivity can be promoted when learners articulate, share, appraise and elaborate shared disciplinary and personal-professional positions, values and procedures (Billett, 2014). Student nurses can learn the skills to enact this shared understanding and the common practices that emerge in the multiple relationships required to 'do' nursing, through dialogical discussions with other students, supported by expert clinicians.

In a narrative systematic review of peer-assisted learning in health courses generally, benefits to students included an ability to reflect, increased confidence and evaluative judgement (Tai, Molloy, Haines, & Canny, 2016). Student-led discussion groups were also found to develop rapport between students in this review. Another systematic review of peer learning in nursing education found that it was associated with increased knowledge and confidence (Stone, Cooper, & Cant, 2013). Students also report the value of active participation encouraging them to be responsible and take ownership of their learning (Stone et al., 2013). A structured peer learning intervention in workplaces, such as a learning circle that engages students in articulating and sharing what they have experienced, has the potential to enhance student learning about their profession while developing the skills to work with others, or intersubjectivity. It was to augment students' learning experiences after their practicum that learning circles were used in the study reported and discussed here.

## 8.3 Post-Practicum Intervention: Learning Circle

The post-practicum intervention enacted in this project is the structured learning circle. The learning circle is an evidence-based pedagogic intervention used in work-based learning (Hiebert, 1996; Sims, Hewitt, & Harris, 2015; Walker, Cooke, Henderson, & Creedy, 2013). Its utility lies in its ability to promote the value of, and accommodate, a diversity of participants' learning processes and preferences (Hiebert, 1996) through accommodating a variety of professional student (such as nursing) populations, in terms of age, work experience and personal sociocultural histories. The learning circle is structured following the four steps of critical reflection reported to be successful in creating effective learning communities in nursing (Walker et al., 2013):

1. Deconstruct a particular practice or topic to develop questions.
2. Confront difficult or 'untouchable' topics that the questions raise.
3. Explore the possibilities, including how practice could be done differently and what information is still required.
4. Generate alternatives for consideration and further investigation.

The learning circle is a pedagogic intervention for developing students' knowledge of nursing through checking, aligning and comparing experiences, feelings and conceptual understanding (Hiebert, 1996). It is intended that students lead the discussion and the clinical facilitators provide information and support and coach them on team communication skills as required by their abilities and readiness. The learning circle is consistent with usual 'debriefing' sessions, engaged by small group discussion held on the health service site, conducted over 60–90 min during the early afternoon of day shifts. As such, releasing students from the wards to attend was considered achievable.

In a study of learning circles in one Australian health service, participants reported increased confidence about their professional practice, as well as developing new perspectives and ideas about practice (Walker, Henderson, Cooke, & Creedy, 2011) and a sense of safety that enabled frank disclosure (Walker et al., 2013). The group process skills that can be developed in learning circles, including shared understanding and purpose, critical reflection, innovation and leadership, are considered to be important skills for team working (Sims et al., 2015). They are, therefore, salient for employability, because they can assist in developing the kinds of capacities required for effective practice. The learning circle aims to develop group process skills and reflection that are necessary for teamwork and developing knowledge about practice.

The aim of this project was to evaluate the introduction of the evidence-based learning circle pedagogy into the clinical placement programme for nursing students. We propose that students' knowledge about practice develops by collaborative analysis of practice experiences using knowledge learnt in their university-based courses as well as that revealed through the group's discussion. Having considered the key concepts associated with intersubjectivity, and the role that

learning circles might play in developing intersubjectivity to promote learning about practice, the following section explains and justifies the specific research questions guiding the study.

## 8.4 Research Questions

The introduction of the evidence-based learning circle pedagogy into the clinical placement for nursing students was evaluated with a focus on the (1) feasibility of conducting learning circles in the workplace setting and (2) students' experiences of learning in the learning circles. Feasibility is the extent to which an innovation can be successfully implemented in a given setting or agency (Proctor et al., 2011). Feasibility is related to compatibility with the organisation's mission or mandate and is focused on the resources and training requirements to deliver the innovation as planned (Proctor et al., 2011). How easy or hard it was to incorporate the learning circle pedagogy into everyday clinical facilitation in the hospital (feasibility) was appraised. In addition, we were interested in understanding more about what students were learning through their use.

This interest was manifested in the 'products' of student learning – what knowledge was developed in the learning circle discussions. To assess how students understood or knew about practice, they were invited to draw or map their ideas about a specific clinical situation onto a sheet of A4-sized paper. These were called concept maps. The classic patterns of knowing in nursing (Carper, 1978; White, 1995) were adopted as an a priori framework for understanding 'what' students were learning by categorising their specific concepts into one of the five patterns of knowing. The five patterns of knowing include empirics, ethics, personal, aesthetics (Carper, 1978) and socio-political (White, 1995). These five patterns are described in the following paragraph.

Empirical knowing is knowledge that is systematically organised into theories and general laws that can predict phenomena of special concern, for instance, in nursing (Carper, 1978). Ethical knowing is focused on matters of obligation or what ought to be done (Carper, 1978). However, White (1995) proposes that ethical knowing in nursing is more complex, suggesting that the ethical-caring dimension of nursing cannot be separated from the personal dimension. Personal knowing requires engagement rather than detachment: a striving to know oneself in relation to another human being (Carper, 1978). Aesthetics, or the art of nursing, suggests a balance, rhythm, proportion and unity of what is done in relation to the articulation of the whole (Carper, 1978). In describing aesthetics, White (1995) draws upon the work of Benner (1984) and suggests that aesthetic knowing or knowledge emerges through experiences, is context specific and is not readily transferable. The fifth and final pattern of knowing, socio-political knowing, lifts the gaze of nurses from the nurse-patient relationship and situates it in the context within which nursing and healthcare take place (White, 1995).

The study that forms the discussion in this chapter was guided by two questions:

1. What is the feasibility of conducting student-led learning circles?
2. What is the learning experienced by students who participate in the learning circle?

The following section describes and justifies the means by which these questions were appraised empirically.

## 8.5 Appraising the Worth of Learning Circles to Promote Intersubjectivity

A mixed methods convergent parallel design (Creswell & Plano Clarke, 2011) was adopted to appraise the potential of learning circles to promote students' intersubjectivity. Mixed methods design usually refers to quantitative combined with qualitative procedures (Creswell & Plano Clarke, 2011). In this study, a convergent mixed methods design (Creswell & Plano Clarke, 2011) was used, whereby each data set was treated as unique. Descriptive or interpretive qualitative methods were used to analyse each data set that are described and elaborated below. Guided by the two research questions, the findings from the data sets were compared and then interpreted to provide answers to the questions. In the following section, descriptions of the participants are provided.

### *8.5.1 Participants*

The study was set in a health service in Australia. Clinical facilitators who provide supervision to nursing students on placement at the health service were invited to participate in the study. Information about the study was shared at a specially convened meeting with clinical facilitators. Those who were interested made contact with one of the site investigators to meet and provide informed consent. The clinical facilitator participants were given a 2.5-hour training session on how to conduct learning circles. A member of the research team attended the first learning circle to provide feedback on the pedagogical procedures.

A convenience sample of second and third year nursing students, from two universities who were undertaking a clinical placement at the tertiary health service, was included in the study. Clinical facilitators, who agreed to participate in the study, assisted with the recruitment of nursing students. They provided information about the study, including a hard copy information sheet, at the clinical orientation session. The timing, sequencing and locations of the learning circles were provided to the nursing students who were assigned to particular clinical facilitators. Informed

consent for participation in the study was finalised for all participants prior to the commencement of the learning circles.

Standard mechanisms were used to protect participants' confidentiality including the:

- De-identification of interview transcripts
- Storage of data in password-protected files

The two participant groups provided information (i.e. data) about their experiences of learning circles. The process and kinds of data collected from the participants are described in the following section.

### *8.5.2 Data Collection*

There were four sources of data: (i) telephone interviews with clinical facilitators, (ii) concept maps completed by students, (iii) student feedback on completion of the learning circle and (iv) follow-up telephone interviews with students who had attended the learning circles. Together, these sources were used to provide a comprehensive and triangulated account of the feasibility of the learning circles and of student learning through their experiences of learning circles and how these shaped their learning.

Firstly, clinical facilitators were invited to participate in two telephone interviews. The initial interview was conducted soon after the first learning circles had been enacted, in order to solicit information about the experience of conducting them, specifically facilitators' perceptions of the benefits and limitations, and potential areas for improvement to promote student intersubjectivity following their clinical experiences. The second interview was conducted shortly after the second learning circles had been enacted and again focused on benefits, limitations and areas for improvement. A member of the research team who was not known to the clinical facilitators conducted the interviews.

The second source of data was concept maps, created by the students during the learning circles. Before the learning circle discussion began, students were invited to describe a clinical case from their placement using a concept map. A concept map is a representation of meaning specific to a domain of knowledge and can be used to represent all domains of knowledge (Novak, 1990). Within a given culture, such as a health service culture, there is sufficient commonality in experience that common meanings for individual concepts can be communicated using language (Novak, 1990). As such, concept maps provide an important instrument for students to record their understanding of the meanings within a specific clinical encounter or situation.

In this study, students prepared a concept map describing a specific clinical encounter before they began the learning circle discussion. Students were instructed to draw their concept maps prior to the discussion using a blue or black pen. Following the learning circle discussion, students were invited to make any addi-

tions to their maps, based on what they had learned during the discussion. These additional concepts were recorded in red pen. The maps were then photographed, using mobile phone technology, for later analysis.

The third source of data consisted of student feedback on the learning circles, collected immediately after they finished. Once students had completed the update of their concept maps, an A4-sized paper with three written questions and space for a response to each question was distributed. The questions invited students to indicate (1) what was helpful about the learning circle experience, (2) how the learning gained from the discussion was important to their work as a nurse and (3) what they would still like to learn. The written responses were gathered and kept for later analysis.

The fourth and final source of data was follow-up interviews with student participants, 3–4 months after the learning circles. At the time of consent, students provided their contact telephone number for the follow-up interview. Students were contacted initially by telephone and invited to arrange a telephone interview. No further contact was attempted after two telephone calls with no response. The follow-up interviews addressed three questions about (1) the most important contribution from the placement experience, (2) what was helpful about the learning circle and (3) how the learning circle could have been improved to assist them to learn the kinds of skills and knowledge needed to be an effective practising nurse, including the development of shared understandings. A research assistant, who had teaching experience, conducted these interviews.

Together, these four sources of data were used to provide a comprehensive account of students' and facilitators' perceptions and experiences of learning circles as a tool to support student learning. However, it is important that data analysis was commensurate with these different sources of data and offered accounts of the complexity of the interrelations of the factors. The processes by which these data were analysed are described below.

### *8.5.3 Data Analysis*

In keeping with the principle of credibility in interpretation, each data set was analysed independently by pairs of research team members. Descriptive methods were used to analyse the interview data (clinical facilitator interviews 1 and 2; student post-learning circle interviews) and written feedback from students. An interpretive method was used to analyse the concept maps, informed a priori by the ways of knowing (White, 1995). The findings from the analysis of each data source were then merged to address the two research questions, consistent with the convergent mixed methods approach (Creswell & Plano Clarke, 2011) adopted for the study. The steps for analysis are described in the following paragraphs.

*Clinical Facilitator Interviews* The transcripts of the interviews with clinical facilitators were used for this analysis. Two members of the research team (VF, MM)

conducted the analysis of the clinical facilitator interviews. A descriptive approach, analysing the data to develop patterns and themes from the narrative content of the interviews (Polit & Beck, 2012), was used. Each researcher reviewed the data independently, analysing the responses to the first and second interviews separately. They then met to discuss their findings and conclude the key themes for the first and second interviews.

*Concept Maps* An interpretive approach, using a nursing conceptual frame (Polit & Beck, 2012), guided the analysis of the concept maps. The analysis was informed a priori by the five patterns of knowing in nursing (Carper, 1978; White, 1995). The concept maps were analysed independently by two team members (LG and LA), who then met and discussed their findings to arrive at a shared interpretation.

Three steps were used to interpret each map. Firstly, the researchers judged whether the concepts were relevant to nursing care for that person. Both researchers were experienced registered nurses and drew on their own experiences to make this judgement. Secondly, the concepts on each map were classified as one of the five patterns of knowing. The concepts recorded before the discussion (blue or black ink) and the concepts recorded after the discussion (red ink) were counted separately and entered into a spreadsheet. Thirdly, the numbers of people, beyond the nurse and patient, who were implicated in the map, were also counted before (blue or black ink) and after (red ink) the discussion. The totals for each category were averaged for each pattern of knowing for each learning circle group. In this way, the patterns of knowing that emerged following the discussion could be described. While this quasi-experimental method may be unique, the disciplinary frame of patterns of knowing in nursing provides a solid and substantive logic to support these techniques, consistent with the definition of interpretive qualitative description from Thorne (2008).

*Handwritten Student Feedback* The third data source, handwritten records of students' feedback on their learning circle experience, was analysed independently by two members of the research team (TvdM and CM). Thematic analysis to produce common themes from the narrative content of the interviews (Braun & Clarke, 2009) was used. As with other teams, these two researchers finalised the findings in a meeting.

*Post-Learning Circle Interviews* The digitally recorded interviews with students were professionally transcribed into word-processing documents. Two members of the research team (VF, LG) conducted the analysis of the student interviews. A descriptive approach was used to analyse the data to identify patterns and themes from the narrative content of the interviews (Polit & Beck, 2012). Each researcher reviewed the data independently, analysing the responses to the interviews separately. They then met to discuss their findings and conclude the key themes for the interviews.

Once the analyses were completed, the research team met for a 4-hour workshop to discuss the findings for each data set and interpret how the combined results answer the two research questions. The summary of this meeting was then circulated to the team for final agreement. It was agreed that no further analysis was required. Interpreting how the combined results address the research question is the final stage of the convergent design (Creswell & Plano Clarke, 2011).

In this section, the empirical methods used to investigate how an intersubjective learning experience, the learning circle pedagogic intervention, was feasible and promoted student learning were outlined. In the next section, findings from each of the data set are described, and conclusions about their meaning in relation to the two research questions are provided.

## 8.6 Findings

Four learning circles were conducted. Two clinical facilitators and 38 second and third year nursing students participated in these learning circles. For logical flow, the findings from the learning circles are presented first, with the concept map analysis and then the immediate student feedback on the learning circle experience presented in the first and second sections. The students' reflections on the learning circles as part of their clinical placement are described in Section 3. Fourthly, a summary of the clinical facilitators' experience of conducting each of the two learning circles is provided. Finally, a summary of the findings in response to the two research questions is provided.

### *8.6.1 Concept Maps*

Three groups of third year (n = 30) and one group of second year (n = 8) students produced 38 maps. Of these, seven were not analysed on the grounds that:

- One was a copy.
- Two images were unable to be read.
- Four were not related to a clinical scenario.

The final set of 31 maps were analysed using the 5 patterns of knowing in nursing (White, 1995). An example concept map is provided in Fig. 8.1.

The average number of concepts for each pattern of knowing for each group is found in Table 8.1. The left-hand column lists the patterns of knowing under which the students' responses have been categorised: empirical, personal, ethical, aesthetic and socio-political. In the columns to its right is a presentation of the pre- and post-test data from the four groups, which includes learning circle group numbers. Each learning circle comprised between six and nine students. Pre-scores in the empirical category ranged from 2.8 to 5.1, while post-scores range from 0.6 to 7.8. Finally, the

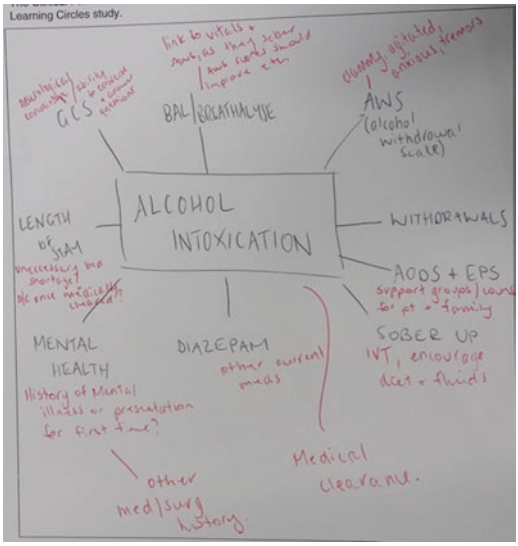


**Fig. 8.1** Sample concept map

**Table 8.1** Average number of concepts in each pattern of knowing

| | Group 1 (n = 8) | | Group 2 (n = 9) | | Group 3 (n = 8) | | Group 4[a] (n = 6) | | |
|---|---|---|---|---|---|---|---|---|---|
| Pattern of knowing | Pre | Post | Pre | Post | Pre | Post | Pre | Post | Total |
| Empirical | 2.8 | 1.3 | 4.8 | 0.6 | 5.1 | 7.8 | 3.7 | 0.7 | 26.8 |
| Personal | 1.1 | 0.1 | 0.1 | 0.7 | 0.3 | 0 | 0.5 | 0.3 | 3.1 |
| Ethical | 0.1 | 0.1 | 0.1 | 0.2 | 0 | 0 | 0.2 | 0.2 | 0.9 |
| Aesthetic | 4.5 | 0.4 | 1 | 1.3 | 1.9 | 3.6 | 2.3 | 0.5 | 15.5 |
| Socio-political | 0.4 | 1.8 | 0.4 | 0.3 | 0.5 | 1.3 | 0.5 | 1 | 6.2 |

[a]Second year students

far right-hand column provides totals for the five categories of patterns of knowing, which ranged from 0.9 to 26.8.

The most common patterns of knowing identified in clinical scenarios were empirical (factual) and aesthetic (doing). The mean pre-scores for these categories were 4.1 (range 2.8–5.1) and 2.43 (1–4.5), respectively, and total scores were 26.8 and 15.5. Concepts added to the maps following discussions were often socio-political in nature, with additional empirical notes also made. For example, mean pre- and post-scores for the socio-political pattern were 0.45 and 1.1, respectively, demonstrating an increase in post-discussion concepts. The less tangible concepts, personal and ethical, were rarely visible in the maps; nor were these matters recorded following discussion. For example, the pre- and post-scores for ethical patterns of knowing ranged from 0 to 0.2, while personal ranged from 0.1 to 0.5. The third area of findings was the number of other people or stakeholders present in the situation. Identification of other stakeholders was not common in the maps. However, stakeholders were more often identified following the discussions.

In summary, a key feature of these concepts maps was that students largely focused on empirical and aesthetic patterns of knowing while rarely focusing on ethical or personal factors. Following learning circle discussions, there were more concepts added to maps from the socio-political (three groups), aesthetic (two groups) and empirical (one group) knowing categories. How students perceived their learning immediately following the learning circle experience is presented in the next section.

### *8.6.2 Student Experience of Learning Circles*

Learning circles were selected as a means by which students could come to share, compare and contrast their experiences of practicum settings, for which this strategy is well chosen. Thirty-seven students who participated in the first four learning circles provided responses to three open-ended questions. Four key themes emerged (see Table 8.2). Students valued the learning circle activity, with learning reported to have been enhanced through active learning in collaboration with other students, safety in peer learning environment, opportunities to analyse difficult concepts and getting feedback from others' perspectives. By working in the group, some students also valued the opportunity to compare and share their learning experiences in a safe environment with their peers. Through the learning circles, students could identify the skills that they were developing, recognise when their ideas were extended, advance their critical thinking skills and gain new strategies in teamwork. Through their conversations, students reported learning about the importance of healthcare systems, including policies and procedures, and the importance of the nursing assessment process. The ability to write down their experiences in the concept map appeared to increase their self-investment in the process and became a source of reference material for them.

The written feedback demonstrated that these students perceived that the learning circles helped them to build skills in critical thinking, teamwork and lateral thinking. They found that active and collaborative learning in a safe environment enhanced their learning and provided opportunities to share knowledge and simplify difficult concepts. Students also seemed invested in the learning circle process, that is, the exercise of intentional engagement and use of their cognitive resources. The immediate feedback, following the learning circles, was supplemented by student views, solicited 3 months later. These findings are presented in the next section.

### *8.6.3 3-Month Post-Experience Student Evaluations*

To ascertain whether there was a medium-term learning benefit from learning circles, an interview was held 3 months after the trialling of the strategy. Nine students were interviewed 3–4 months post-learning circle experience. Five were newly

**Table 8.2** Themes from student experiences of the learning circle

| Element | Examples from students |
|---|---|
| Theme #1 Value the learning circle activity | |
| Learning is enhanced through active learning in collaboration with other students | 'I like that it was student based and we fed off each other's critical situation. It allowed us to learn about each other's topic and add to it' SN6 |
| | 'Rather than just listening we were able to dissect issues in our own language' SN19 |
| Safety in peer learning environment | 'Discussing experiences without feeling judged by experienced health professionals' SN24 |
| Opportunity to analyse difficult concepts | 'Breaking down a situation into smaller, more understandable aspects' SN13 |
| Getting feedback from others' perspectives | 'Everyone has a different perspective or take on a situation so you can get a more complete picture' SN38 |
| Theme #2 Develop skills | |
| Thinking outside the box | 'Different approaches to learning. Having different people with different experiences coming together with a fresh perspective allows me to be able to "think outside the box"' SN19 |
| Critical thinking | 'It is important to think critically and explore all possible avenues and this reflection has definitely broadened my thought processes' SN18 |
| Teamwork strategies | 'It highlights the importance of good open communication with peers and how important teamwork is within the nursing environment' SN38 |
| Theme #3 Importance of healthcare systems | |
| Policies and procedures | 'Always refer back to policies and procedures to keep you safe and optimise your patient outcomes' SN4 |
| Nursing assessment process | 'Reinforces the need for good nursing assessment' SN25 |
| Concept map as a reference | |
| Invested in the learning circle process | 'From this experience learning circles will be helpful in any learning experience' SN33 |
| | 'I need to constantly challenge my professional capacity to become an effective professional. This has given me a platform to critique and expand my capacity' SN34 |
| | 'Mind map to gather information. Get clear thinking and logical interventions' SN20 |

qualified registered nurses at the time of interview and four were then in their third year of study. Many of the potential participants were already working as newly qualified nurses and declined the follow-up interview. At this interview, two students indicated that the concept maps were helpful in that they supported them to declare what they had been considering into written words:

> …kinda putting your thoughts on paper…that was good for me because I am a visual learner (John, third year)
> …then also, just getting your thoughts on paper (Belle, third year).

The participants recalled the relevance of the discussion to their case, valued learning from others' experiences and valued listening to other perspectives on a specific situation. The findings from these interviews are found in Table 8.3. In this table, the left-hand column captures themes arising from students' accounts of their experiences of learning circles. These comprise (i) the ability to engage with other perspectives, which helped the students to think differently about the cases; (ii) learning from others' experience, which they found validated their own knowledge; and (iii) being able to share and engage with other students in a nonthreatening environment. The right-hand column provides examples of quotes from these students' interviews.

The 3-month post-learning circle feedback produced similar themes to those that arose from the immediate written feedback described earlier, in that students described learning from their peers, in active and safe ways. Having secured students' perspectives and accounts, it was also necessary to capture those from clinical facilitators, which are presented in the following section.

**Table 8.3** Themes from student experiences of the learning circle – 3-month post-experience

| Theme | Examples from students |
|---|---|
| Valued listening to other perspectives on a specific situation | Everybody just got to collaborate… (Bill, second year) |
| | …discussing it with my peers who are at the same level of knowledge (John, third year) |
| | …the way everyone thinks differently … opens it up so you … reflecting or doing something a little bit differently to what you would normally do… (Phil, third year) |
| Valued learning from others' experiences | Comforting to know that other people experienced similar things to me (Jane, third year) |
| | A good way to learn from each other (Wendy, third year) |
| | …gaining insight onto other students' strengths and limitations and just how they dealt with certain situations (Paul, second year) |
| | So you've almost got eight different views, eight different experiences… (Bill, second year) |
| | …helped me prepare [for] going out into the workforce…hearing other people's experience, and getting validation as well (Belle, third year) |
| Felt comfortable in a relaxed environment | I felt like I listened more (Jane, third year) |
| | You can learn from, help each other as well because you're learning it helps with the knowledge (Wendy, third year) |
| | … it wasn't stressful, no one felt pressured to say something important or just anything, any little thing that could be recalled or be brought to the group was always appreciated (Paul, second year) |
| | I thought that it was a really stress-free environment. You didn't have to be worried whether you had a different opinion to somebody else (Sarah, second year) |

### *8.6.4 Clinical Facilitator Reflections*

Two clinical facilitators participated in this study. They claimed to value the student-led nature of discussion and reported they were able to assess individual students' performance by their engagement in the discussion. For example:

> It really was quite good with regards to discussion…it made them all discuss between each other… and they really enjoyed it (CF1, interview 1).
> It provides me with the opportunity to [observe] the interchange and … assess them on how they engage [with others]… (CF2, interview 1).
> It's their whole interaction … and developing rapport with each other (CF 1, interview 2).

The clinical facilitators also identified that those students who had previously been exposed to concept mapping often led the discussion, while the rest of the student group participated as they became more familiar with this concept.

> It took them a little while to … really get their heads around [the concept map] (CF1, interview 1).
> He already has a Masters in engineering so as soon as we talked about the concept map, he just saw the lightbulb and went off (CF2, interview 1).

The learning circles were considered to be a means to support reflection on practice, with the students investing in the information they were sharing. The clinical facilitators reported that the students valued this type of reflection process. The clinical facilitators highlighted that the learning circle process required them to shift their focus from guiding students to supporting them to lead and progress the discussions – something new to both the clinical facilitators and student groups.

> …let them drive their reflection because you get more value out of it (CF1, interview 1).
> …so when you give them the power, I find the conversation shifts quite significantly…and a lot of learning has taken place in the conversation (CF 2, interview 2).

Understanding concept mapping was also a new skill for the facilitators who required coaching on how to support students in the development of their own concept map. Facilitators noted that the deconstruction of the concept maps allowed students to make sense of what they observed and experienced in practice; this constituted valuable learning.

> …getting them to come up with one particular item and then deconstruct that and to help make sense of what they're actually doing…initially they are [unsure] but once they start, it's quite good" (CF1, interview 1).
> …learning a bit about the issue that they weren't able to absorb or take on board through their university classes (CF2, interview 1).
> …I struggle the most with how to get them to understand what concept mapping is… (CF2, interview 2).

Finally, the facilitators were challenged to locate appropriate spaces to conduct learning circles in the busy teaching hospital setting.

> Its more been a case of trying to find a time that suits in a room that's available, that's the appropriate size, a good time to get the students off the floor… (CF2, interview 1).

In summary, the facilitators perceived that learning circles were a valuable tool to support student learning that encouraged active learning and reflection. They also indicated that the students who had not had previous experience with concept mapping needed coaching on how to use this approach. They themselves also needed to be taught how to support students with student-led discussion and concept mapping. Unforeseen barriers to be addressed included finding an appropriate space to conduct the learning circles.

### *8.6.5 Summarised Findings*

The analyses of how the four different data sets addressed the two questions generated some worthwhile findings. In response to the first question, the student-led learning circles appeared to be feasible. Students valued the activity at the time of the learning circle (written student feedback), and this continued with 3-month post-learning circles (student interviews). Further, groups of 6–9 students attended each of the four learning circles. Clinical facilitators admitted initial discomfort with the transition from discussion leader, undertaken in traditional 'debriefing sessions', to observer or facilitator (clinical facilitator interviews). However, both commented on how the students were able to engage in good discussion with each other, with very little coaching (clinical facilitator interviews). One of the challenges to feasibility was adequate resources (clinical facilitator interviews). Room availability in this teaching hospital setting was difficult to negotiate at times that was suitable to remove the students from the ward for the learning circle discussions.

What was experienced by these students appeared to develop deep learning. The concept mapping activity engaged them in a form of reflection and learning (clinical facilitator interviews). These students reported that their knowledge and skills in critical thinking and teamwork were developed (written student feedback), and they also enjoyed collaborating with and feeling safe learning from their peers (written student feedback; student interviews). Students also valued the wide range of experiences and perspectives of their peers (written student feedback; student interviews). The concepts that students drew upon from their clinical experiences were largely focused on empirical and aesthetic patterns of knowing and rarely focused on ethical or personal factors (concept maps). Socio-political knowing appeared to be enhanced following learning circle discussions, with awareness of others' influence or legitimate place in the scenario emerging through discussion (concept maps).

To optimise this approach, both students and facilitators need some training in concept mapping (clinical facilitators; student feedback), and facilitators need to be coached on how to support students to lead the discussions. Access to a suitable learning space is also vital. The following section situates these findings in the context of current research into feasibility of the learning circle pedagogic intervention, how students learn about intersubjectivity and nursing practice and the limitations of the qualitative mixed methods approach.

## 8.7 Discussion

This pilot study was designed to explore how intersubjectivity can be developed and used to support student learning in a post-practicum experience. Learning circles were selected as the pedagogic intervention for this study based upon their established history in supporting workplace learning (Hiebert, 1996; Sims et al., 2015; Walker et al., 2013) and their similarity to current practices, known as debriefing sessions. This study sought to explore the feasibility of the learning circle pedagogic intervention and the learning that students experience when they participate in a learning circle. The limitations of the qualitative mixed methods approach will also be discussed in this section.

### *8.7.1 Feasibility*

For the purpose of this study, feasibility was defined as the extent to which an innovation can be successfully implemented in a given setting or agency (Proctor et al., 2011). The findings indicate that the learning circle pedagogy intervention is structurally feasible for students and clinical facilitators, but there are challenges. Organising a suitable space in a busy teaching hospital for this activity and shifting the focus of discussion from facilitator-led to student-led were important challenges.

For the purpose of research, the learning circle process required the addition of completion of a concept map. Student participants completed the concept map before they engaged in the first step, to deconstruct a particular practice or topic, of the prescribed learning circle method (Walker et al., 2013). Students' lack of experience with concept maps, and clinical facilitators' lack of confidence in the overall process of conducting the learning circle, contributed to a slow start for the initial learning circle discussions. The clinical facilitators reported the need to provide some instruction on concept mapping to students, noting that students who had completed maps before did not need support. This did extend the time required to complete the learning circle, up to 90 min in some cases.

Reasonable numbers of students participated in the learning circles, indicating that these were offered at a time and place that was convenient to the students and the host wards. However, the clinical facilitators reported difficulties in scheduling the learning circles, particularly around room availability. If learning circle interventions become a regular pedagogic activity, a system for booking rooms at times that suit release of students from ward experiences would need to be developed.

In terms of incorporating the learning circle into their everyday work, the clinical facilitators noted that the shift from leader of discussions, such as in debriefing and reflective sessions, to observer and coach in the learning circles was challenging. However, the opportunity to assess student understanding of practice through obser-

vations of their discussions was considered beneficial to their assessment of student performance. For this study, the clinical facilitators were provided with one 2.5-hour seminar. This was followed up with a research team member attending the first learning circle and providing feedback to the clinical facilitator. While there is research into the student learning outcomes of the learning circle pedagogy (Walker et al., 2011, 2013), no evidence was found around the teachers' experiences of conducting learning circles. An examination of the skills required to facilitate student-led discussions is an area for further research.

The learning circle pedagogic intervention was found to be feasible for the health service setting. Further investigation into the role and function of the clinical facilitator during this type of learning circle, and how this can enhance student learning, is required. Establishing the appropriate training required for clinical facilitators to conduct learning circles in the clinical workplace is also worthy of further investigation. How the learning circle pedagogic intervention contributed to student learning is explored in the next section.

### *8.7.2 Learning*

The student feedback on the learning circles indicated that they valued the activity and that they believed that their learning was enhanced through collaboration with other students. This is consistent with research into health professionals working in interdisciplinary teams, where health professionals across all clinical divisions consistently reported the salience of working with others (Nugus et al., 2010). While these learning circles were conducted with students who often did not know each other and included students from different social backgrounds, the students in each learning circle were homogenous in terms of year group and university. As such, the conversations did not require negotiation of an 'authority gradient' (Gluyas, 2015), which is commonly found in multidisciplinary teams. One of the key individual factors limiting interprofessional communication for newly qualified nurses is self-confidence (Pfaff et al., 2014). Further research into the relationship between participation in learning circles and confidence in communication about patient matters is necessary.

Through participation in the learning circles, these students reported valuing feedback on their ideas from others in the group. In the follow-up interviews, students reiterated the value of others' perspectives and experiences for their learning. While the learning circles were not interprofessional, the students appeared to be developing the kinds of intersubjectivity required for effective interprofessional working. They listened to, and valued, the revelations of others' perspectives and were able to practise the skills of articulation, sharing and appraising practice cases as a nurse in the learning circle. These skills are essential to intersubjectivity (Billett, 2014). Students also reported that participation in the learning circle provided an opportunity to reflect on their practice, which is another essential element required

for intersubjectivity (Billett, 2014). The learning circle activity provides an opportunity for novices to develop the skills required for teamwork.

Students reported that the context of peer learning, provided by the learning circles, offered the opportunity to analyse difficult concepts in a relatively safe environment. Although not expressed by the students in this study, the process of engaging more deeply in topic material provided by peer learning has been found to promote confidence or self-efficacy in medical students (Tai et al., 2016) and nursing students (Stone et al., 2013). Given the importance of interprofessional working in health services, the relationship between learning circle activities and students' self-confidence to engage in clinical discussions with others during practice experiences is worthy of investigation.

The inclusion of the concept map in the learning circle was necessary as a data collection tool. However, students reported that the concept map also helped them to organise their thinking by deconstructing their experiences and putting their ideas on paper. Concept maps are emerging as an important pedagogic tool in nursing education, particularly in the development of critical thinking skills (Daley, Morgan, & Beeman Black, 2016). In this study, the structure of the concept maps was open to students' imagination, which they and the facilitators initially found difficult. The concept maps were valued as a resource by the students and appeared to increase their investment in the dialogic process. Further investigation into the use of concept maps in the peer learning circle context as a way of developing metacognitive, as well as intersubjective skills, is recommended.

We were interested in what knowledge the students found salient in their practice. The analysis of concept maps revealed the dominance of empirical and aesthetic forms of knowing initially, with concepts indicating socio-political knowing added to the concept maps following discussion with peers. Through discussion, students identified the influences that existed in the context within which they were working, including other stakeholders in the care of the patient. In one sense, working intersubjectively in the learning circle produced intersubjective awareness in relation to the students' individual cases (maps). Following the learning circles, some students commented specifically that the discussion increased their awareness of the importance of the healthcare system. White (1995) proposed that socio-political knowing was more than awareness of the constraints associated with limited resources and government regulations and policy. She suggests that socio-political knowing is also about issues of power, specifically whose voice is heard and whose voice is silenced (White, 1995). As indicated earlier, power, and how it is exercised in the workplace, is a critical element in teamwork (Gluyas, 2015; Nugus et al., 2010). The addition of socio-political concepts to the maps following discussion indicates that the learning circle is addressing a key element of intersubjectivity, power.

Two patterns of knowing, personal and ethical, were not often included in the students' concept maps. It is difficult to determine why these patterns were not included. It is worth considering whether these patterns of knowing are not considered relevant to the situation, or not considered important enough to map, or invisible to the students. Like socio-political knowing, personal and ethical elements in

a clinical case may require a specific strategy for surfacing and developing these patterns of knowing. Further research into how students conceptualise nursing practice is warranted.

Working with others is an important skill in healthcare. Trends towards more online teaching in undergraduate education may well reduce opportunities for students to develop intersubjectivity. An older study exploring the development of group skills in an online environment found that the online context reproduces existing learning relations and differences, with limited opportunities to challenge the status quo (Baskin et al., 2005). When students came together in the workplace environment, to discuss their nursing practice, they were challenged to think differently about their cases. The embodiment of the discussion, the physical presence of others' bodies and the significance of the workplace context are powerful motivators for shared learning in this study. While valued, finding the space in a busy hospital setting to undertake the learning circle activity was challenging and may still be a significant barrier to sustainability.

The learning circle pedagogic intervention delivered in the healthcare setting appears to offer a feasible means for supporting student development of intersubjectivity that are suitable for highly situated and fleeting discussions with peers. Students shared that these experiences were beneficial for their learning, with an increase in socio-political, aesthetic and empirical knowing found in their concept maps. To more fully understand the mechanisms of the learning circle pedagogic intervention in terms of intersubjectivity, further work is required. Recording, either video or audio, of the learning circles can provide specific examples of phrases, gestures and other elements of communication that supports the openness required for intersubjective practice.

### *8.7.3 Limitations*

This pilot study found that learning circles provided a valuable pedagogy for student learning from practice. The relatively small numbers of students and facilitators in this study mean that no generalisations to other sites can be made. However, the insights from this study can inform stronger investigative designs in the future. Three-month follow-up contact with third year students was difficult as they had progressed to graduate positions and were not easily available for interview. This is an important consideration for future research studies that require follow-up.

Good qualitative studies produce findings that are credible, confirmable, dependable, transferable and authentic (Polit & Beck, 2012). Two research team members conducted each element of data analysis to enhance credibility and confirmability. While this is a pilot study conducted at a particular point in the organisation's history, the dependability of the data will be confirmed when the project is delivered across new areas of the organisation. The methods have been descriptive to increase the likelihood that research consumers can evaluate the applicability of the data to their settings. Examples from the data are provided to increase the authenticity of inductive claims.

## 8.8 Conclusion

At this stage, the student-led learning circle design is recommended as an educational strategy to support the development of intersubjectivity. The learning circle activity is currently being progressively introduced across nursing student placements in the host healthcare system. Further, the process of concept mapping appears to be a useful element of the learning circle activity, whereby students can organise their ideas for sharing with others. How concept maps can be used with other practical activities in undergraduate education, such as simulation, should be explored.

This research set out to investigate how to support nursing students to develop the intersubjectivity required for everyday nursing practice: for the fleeting and multiple relationships and teams within which they work. The learning circle pedagogic intervention appears to be feasible and produce student learning about practice. How it actually develops intersubjective skills, particularly communication skills, remains unclear. This is an area for further investigation.

## References

Benner, P. (1984). *From novice to expert: excellence and power in clinical nursing practice*. Boston, USA: Addison Wesley Publishing Company.

Baskin, C., Barker, M., & Woods, P. (2005). When group work leaves the classroom does group skills development also go out the window? *British Journal of Educational Technology, 36*(1), 19–31.

Billett, S. (2014). Securing intersubjectivity through interprofessional workplace learning experiences. *Journal of Interprofessional Care, 28*(3), 206–211.

Braun, V., & Clarke, V. (2009). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Carper, B. A. (1978). Fundamental patterns of knowing in nursing. *Advances in Nursing Science, 1*(1), 13–24.

Cody, W. K. (1995). Intersubjectivity: Nursing's contribution to the explication of its post-modern meaning. *Nursing Science Quarterly, 8*(2), 52–54.

Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). Los Angeles: Sage.

Daley, B. J., Morgan, S., & Beman Black, S. (2016). Concept maps in nursing education: A historical literature review and research directions. *Journal of Nursing Education, 55*(11), 631–639.

Gluyas, H. (2015). Effective communication and teamwork promote patient safety. *Nursing Standards, 29*(49), 50–57.

Hiebert, J. (1996). Learning circles: A strategy for clinical practicum. *Nurse Educator, 21*(3), 37–42.

Lewin, S., & Reeves, S. (2011). Enacting 'team' and 'teamwork': Using Goffman's theory of impression management to illuminate interprofessional practice on hospital wards. *Social Science & Medicine, 72*(10), 1595–1602.

Novak, J. D. (1990). Concept maps and Vee diagrams: Two metacognitive tools to facilitate meaningful learning. *Instructional Science, 19*(1), 29–52.

Nugus, P., Greenfield, D., Travaglia, J., Westbrook, J., & Braithwaite, J. (2010). How and where clinicians exercise power: Interprofessional relations in health care. *Social Science & Medicine, 71*(5), 898–909.

Nursing and Midwifery Board of Australia. (2016). *Registered nurse standards for practice*. Available from: http://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Professional-standards/registered-nurse-standards-for-practice.aspx. Downloaded 13 May 2017.

Pfaff, K., Baxter, P., Jack, S., & Ploeg, J. (2014). An integrative review of the factors influencing new graduate nurse engagement in interprofessional collaboration. *Journal of Advanced Nursing, 70*(1), 4–20.

Pierson, W. (1999). Considering the nature of intersubjectivity within nursing. *Journal of Advanced Nursing, 30*(2), 294–302.

Polit, D., & Totano Beck, C. (2012). *Nursing research: Generating and assessing evidence for nursing practice*. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins.

Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., et al. (2011). Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research agendas. *Administrative Policy in Mental Health, 38*(2), 65–76.

Sims, S., Hewitt, G., & Harris, R. (2015). Evidence of a shared purpose, critical reflection, innovation and leadership in interprofessional healthcare teams: A realist synthesis. *Journal of Interprofessional Care, 29*(3), 209–215.

Stone, R., Cooper, S., & Cant, R. (2013). The value of peer learning in undergraduate nursing education: A systematic review. *ISRN Nursing* (10pp). https://doi.org/10.1155/2013/930901

Tai, J., Molloy, E., Haines, T., & Canny, B. (2016). Same-level peer-assisted learning in medical clinical placements: A narrative systematic review. *Medical Education, 50*, 469–484.

Thorne, S. (2008). *Interpretive description*. Walnut Creek, CA: Left Coast Press.

Walker, R., Cooke, M., Henderson, A., & Creedy, D. K. (2013). Using a critical reflection process to create an effective learning community in the workplace. *Nurse Education Today, 33*(5), 504–511.

Walker, R., Henderson, A., Cooke, M., & Creedy, D. K. (2011). Impact of a learning circle intervention across academic and service contexts on developing a learning culture. *Nurse Education Today, 31*(4), 378–382.

White, J. (1995). Patterns of knowing: Review, critique, and update. *Advances in Nursing Science, 17*(4), 73–86.

# Chapter 9
# Consolidating Clinical Learning Through Post-Rotation Small Group Activities


**Carole Steketee, Niamh Keane, and Katharine Gardiner**

## 9.1 Introduction

Workplace learning can be defined as learning about and through work by participating in the often-complex daily activity of the vocational setting (Billett, 2001). A significant proportion of the preregistration medical curriculum is delivered in the workplace in recognition of its value as a catalyst for the development of essential professional competencies (Ash, Walters, Prideaux & Wilson, 2012) and for assisting the metamorphic transformation from student to novice clinician (Greenhill & Poncelet, 2013). However, workplace learning opportunities for medical students vary across clinical sites, and the quality of teaching and learning activities can be inconsistent. Time-pressured clinicians who have a patient-focussed approach to supervision often teach "on the run" rather than adopting a student-focussed approach to learning. This type of pedagogical practice can be confronting for students entering the clinical curriculum from the preclinical years, where there is a more structured, student-centred approach to learning.

Learning in the clinical environment is often modelled on a cognitive apprenticeship, whereby novice students learn about patient care under the close supervision of an expert clinician, in the context of real-life clinical activity (Lyons, McLaughlin, Khanova, & Roth, 2017). Learning in situ allows for the wholeness of a craft to be experienced by students, which often includes the subtle, nuanced and implicit practices of the expert (Lave & Wenger, 1991). However, the success of this model presumes active student engagement, which is critical to successful learning. Student engagement in the clinical setting involves activities such as observing and questioning expert clinicians; practising procedural skills (and receiving feedback about performance); communicating with patients, peers and health teams; trialling

C. Steketee (✉) · N. Keane · K. Gardiner
The University of Notre Dame Australia, Fremantle, Australia
e-mail: carole.steketee@nd.edu.au; niamh.keane@nd.edu.au



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_9

learning strategies; and reflecting on performance. Billett (2001) argues, however, that students can only engage in their learning if the setting provides ample opportunity to do so.

Although a common feature of most health professional courses, the degree to which all principles of cognitive apprenticeship are adhered to varies (Stalmeijer, Dolmans, Wolfhagen, & Scherpbier, 2009). The medical school at The University of Notre Dame Australia, like many medical schools in Australia, has adopted this model for its clinical rotations in the Bachelor of Medicine and Bachelor of Surgery (MBBS) degree, in anticipation of its potential to prepare students for professional practice upon graduation. Students rotate through a range of specialties in the final 2 years of their course, only returning to campus 1 day per week for various lectures. Despite this extensive exposure to workplace learning, school evaluations suggest that students feel underprepared for clinical practice upon graduation.

To address this perceived lack of preparedness, staff in the clinical years' programme sought to provide some form of educational intervention that would augment learning during clinical rotations and ensure that workplace learning was comprehensive. As such, clinical debriefing tutorials (CDT), which were first introduced into the MBBS curriculum in 2011, were modified for final year medical students in 2016. This modification aimed to give students a greater opportunity to use the tutorials to consolidate learning during their clinical rotations. Led by an experienced clinician, students were encouraged to identify strategies to assist them in adapting to the realities of the clinical workplace, both as students and once they graduate as practising doctors. This chapter explores the potential of the modified clinical debriefing tutorial (MCDT) as an educational intervention that can augment the cognitive apprenticeship model and ensure that medical students are adequately prepared for professional practice.

## 9.2 Background

A prevailing outcome of the Flexner review into medical education is bedside learning and teaching. Flexner (1910) argued that medical courses should have a strong biomedical foundation, followed by clinical placements where students learn about disease and illness at the bedside of real patients. Thus, was born the "2 + 2" medical curriculum structure, consisting of 2 years of basic clinical science instruction, followed by 2 years of hands-on clinical experience. While Irby, Cooke and O'Brien (2010) argue that this model is no longer adequate for training students for contemporary healthcare environments, it is nonetheless a common feature of most medical courses today. Current practices still favour a cognitive apprenticeship approach to training, whereby students "shadow" experienced clinicians as they rotate through a range of specialties in the clinical setting. In this regard, it is anticipated that students will learn how to solve complex medical problems, guided by expert medical practitioners and in the context of authentic professional practice.

### 9.2.1 What Is the Cognitive Apprenticeship Model?

The apprenticeship, where a novice learns how to perform a skill by doing it in the presence of a more experienced other, has been practised in the workplace for centuries (Honebein, Duffy, & Fishman, 1993). The "cognitive apprenticeship" model is an extension of the apprenticeship in that the novice learns complex cognitive and metacognitive knowledge and skills through guided experiences that make tacit processes visible (Collins, Brown & Holum, 1991). Strategies such as modelling, coaching, reflection, articulation and exploration are key to ensuring that learning is appropriately scaffolded and that the subtleties of expert professional practice are observable to students.

Theories of situated learning underpin cognitive apprenticeship and contend that it is ineffective to separate learning from the context within which newly learned knowledge and skills will be applied (Lave & Wenger, 1991). Effective learning, therefore, occurs when students develop knowledge and skills by participating in meaningful and authentic tasks that are innate to the activity of a specific context. This context is comprised of people, objects, symbols and situations that together constitute a community of practice (Wenger, 1998). When students are invited into this community of practice as an apprentice, they experience first-hand its cultural complexities and nuances as they attempt to construct new knowledge and solve real problems.

Learning in a community of practice, therefore, is a social and highly interactive process, which requires the co-participation and engagement of all members of the community ranging from novices to experts. The diverse range of participants' know-how and perspectives provides the agenda and the framework for learning across all levels of competency.

### 9.2.2 Applying the Cognitive Apprenticeship Model to the Clinical Curriculum?

During the clinical years of the medical curriculum, students enter into the community of practice of the healthcare organisation, where groups of individuals interact on a daily basis as they go about the business of patient care. Learning is "situated" in the context of the hospital (or other clinical setting, such as a community general practice), and students learn by performing tasks similar to those that they will do once they graduate as doctors. Medical practitioners, and other health professionals, play an essential role in the student's ability to participate effectively in the activity of the clinical setting. As Spouse (1998) states, learning occurs "… when individuals are sponsored into an unfamiliar community of practice by an experienced practitioner and inducted to its everyday (informal) knowledge and practices through legitimate peripheral participation in daily activities" (p. 261). These more knowledgeable practitioners model clinical reasoning and procedural

skills, carefully guiding students as they trial and attempt to adopt similar practices under supervision. The level of intervention provided by the clinician is gradually reduced the more proficient the student becomes.

This support is often known as "scaffolding" and is typically appropriate to the student's "zone of proximal development"; (ZPD), that is, the level between what the student can achieve alone and what he or she can achieve with the assistance of others (Vygotsky, 1978). For learning to be effective, activities and experiences tailored by the clinician need to take into account the student's readiness to move into a new zone, that is, to move beyond her or his current capacity to higher levels of achievement and proficiency.

The concept of the ZPD can be an elusive one to clinicians who often have had no formal training in learning theories. Trying to determine students' individual ZPDs, as well as tailoring appropriate learning experiences, can be challenging for the most experienced classroom educator, let alone a busy clinician teaching in the workplace. In recent times, curricular devices have been created to support clinical teaching and learning. For example, the Entrustable Professional Activity (EPA) (ten Cate & Scheele, 2007) operationalises discrete units of professional practice in which students must demonstrate proficiency before they can be trusted to perform them unsupervised. EPAs are plotted on a supervision matrix, which potentially allows clinicians to track students' ZPDs as they gradually gain autonomy in the tasks.

However, transition to a new zone is not just about mastery of a skill or concept. The journey from medical student to novice clinician is a transformational one, whereby beliefs and mindsets are examined, evaluated and reshaped (Goldie, 2012). Therefore, the role of the clinician and the broader community of practice is to assist students to become aware of their critical assumptions and to provide alternative points of view. Critical reflection of this type takes time and investment on the part of the clinician to ensure that there are sufficient opportunities for discourse and analysis of existing and alternative world views. A well-prepared medical graduate is one who is able to think responsibly and autonomously, as well as to perform routine procedures competently. Autonomous thinking is central to transformative learning theory (Mezirow, 1997).

### *9.2.3 The Notre Dame Context*

The School of Medicine at The University of Notre Dame Australia has adopted a cognitive apprenticeship model for the final 2 years of its MBBS course. In the context of real clinical settings at both public and private hospitals (as well as general practices) across Western Australia, students rotate through various medical specialties, working with clinicians as they tend to their patients. Students transition into the clinical rotations from a campus-based biomedical programme in the first 2 years of their course. The aim of the clinical rotations is to integrate students into

the daily practice of practice teams and develop competence in patient management, such that they are adequately prepared to begin supervised practice on graduation.

Despite this extended period of workplace training, findings from internal School of Medicine evaluations suggest that new graduates do not feel adequately prepared for particular aspects of professional practice. The 2015 survey, conducted as an ongoing mechanism for curriculum review, asked recent graduates to reflect on their perceptions of the efficacy of various elements of the MBBS and their confidence to practise as a doctor on its completion. While they believed that clinical rotations were an important feature of the curriculum, their experience in coordination of patient care and management of handover was variable and in some cases inadequate. This resulted in low levels of confidence and increased anxiety in the first months of their first year in supervised practice. The expectation that they enter the workplace ready to function as a fully qualified doctor was daunting and stressful. Similar findings have been reported by other Schools, where medical students state that they feel ill-prepared for the workplace (Monrouxe et al., 2017).

The specific reasons underpinning the graduates' perceptions of underpreparedness were not explored in our survey, but research suggests that inadequate supervision and a lack of participation in legitimate, authentic activities during clinical practicums might be partially responsible (Kohl-Hackert et al., 2014). Due to the fast-paced, complex nature of busy clinical environments, students are often left to their own devices on the fringe of authentic activity and find it challenging to learn "legitimately" alongside more expert clinicians. Furmedge writes, "Students struggle to become truly legitimate participants which makes it more difficult for them to make a real contribution to, or become integral to the community to which they are peripheral" (2008, p. 857).

### *9.2.4 Affordances of the Clinical Setting*

From a theoretical perspective, clinical rotations provide the necessary backdrop for the richness of situated learning in communities of practice. If students maximise the opportunities afforded by the activity within the community, then the cognitive apprenticeship is a valuable model for workplace learning for medical students. However, as Richards, Sweet and Billett (2013, p. 252) note, students can only engage in their learning if the setting provides ample opportunity to do so. "No amount of learner agency can compensate for the denial of access to activities and interactions required to learn what is required for a medical degree". Clinical rotations, therefore, are only as good as the affordances offered within the practice setting and, of course, the degree to which students engage with these affordances. The reality of the contemporary clinical setting needs to be unpacked if these affordances are to be understood.

The number of accredited medical schools across Australia has doubled since the beginning of the twenty-first century (Murray & Wilson, 2017). This has resulted in an increased number of medical students on the wards requiring supervision. While

this increase will eventually address a workforce shortfall, time-poor clinicians are unable to provide students with the type of close supervision that is required for the cognitive apprenticeship model to work effectively. Reduced government funding, shorter patient stays in hospital and an ageing workforce have resulted in patient-focussed clinicians for whom teaching is important, but not necessarily a priority. Consequently, teaching "on the run", where teaching is impromptu and occurs when an opportunity presents itself, is a reality for most clinicians who try to reconcile a heavy patient and administrative workload with student supervision. While this improvised approach to teaching has merit in a fast-paced clinical setting, its patient focus (i.e. What does this case present that a student can learn about?), rather than student focus (i.e. What does my student currently know about this patient, and how can I structure a learning experience to help expand her or his current thinking and competency?), does not necessarily take into consideration proximal or transformational learning.

In an effort to address the challenges of learning and teaching in the clinical environment, Kalet, Coady, Hopkins, Hochberg and Riles (2007) propose developing learning activities that complement the cognitive apprenticeship model and supplement clinical rotations. While some might argue that, due to the changing landscape of healthcare, the entire structure of clinical education needs reform (Irby et al., 2010), this project focussed on augmentation of the current structures until such reform occurs. The next section describes an educational intervention that was implemented to supplement student learning during clinical rotations at The University of Notre Dame Australia.

### *9.2.5 Augmenting Learning During Clinical Rotations*

In an effort to address the perceived lack of preparation among Notre Dame graduates, staff in the clinical programme sought to augment learning in the clinical rotations via some form of educational intervention in the final year of study. To better understand students' preferences in this matter, third year students were surveyed at the end of their first clinical year in 2015. They were asked to consider the types of activities they felt would best supplement their clinical rotations in their fourth and final year of the MBBS, and assist them in transitioning into the workplace upon graduation.

The majority of responses indicated that students would prefer to participate in small group activities facilitated by a practising clinician, in a relaxed discursive format and at the end of the rotation blocks. Our data contributed to a national study (Billett, Cain, & Hai Le, 2016) that highlighted students' preference for supplemental practicum activities to be provided at the end of the experience and to be led by expert clinicians. The third year Notre Dame students also said that they wanted the opportunity to share and make sense of rotation experiences in a nonthreatening environment, explore the relationships between patient cases and the content they had learned in their preclinical years, seek feedback from an expert clinician about

their performance and the decisions they had made while on rotation, and compare and contrast experiences across different sites.

With this information on hand, staff considered providing extra tutorials; however, given the fullness of the final year curriculum, introducing additional activities into the programme was deemed problematic. Instead, we decided that the educational intervention would be integrated into an existing clinical debriefing programme, which has been a feature of the course since 2011. Known as "clinical debriefing tutorials" (CDTs), these small group, clinician-led conversational sessions are offered to students at the end of their clinical rotations as a means of recounting their experiences and sharing emotional concerns that may have arisen from confronting encounters with patients or others in the clinical setting. CDTs have always been valued in the MBBS as a means of supporting the students' personal and professional development; however, we recognised that their original structure, which was fluid and organic, resulted in inconsistent student experiences and poor satisfaction ratings.

The aim of the modification, therefore, was to embed structure into the existing programme such that cognitive apprenticeship strategies (modelling, coaching, scaffolding, articulation, reflection and exploration) were a key feature of the tutorials and that critical discourse – between student and peers, as well as between student and tutor – was the mechanism by which they were actuated. Although learning is not technically in situ, it is nonetheless contextualised, as the students' clinical experiences are the focus of discussion and exploration. The theory underpinning the design of the modified CDTs (known as MCDTs) is transformative learning, with the intention of giving students time, space and encouragement to make sense of their clinical experiences and to develop confidence in traversing the complexities of the clinical workplace. Transformative learning seeks "to help the individual become a more autonomous thinker by learning to negotiate his or her own values, meanings, and purposes rather than to uncritically act on those of others" (Mezirow, 1997, p. 11). This is, indeed, an important characteristic of an effective doctor.

The role of the tutor in ensuring the success of the modified MCDTs cannot be understated. Critical discourse is central to transformative learning and in this regard, Mezirow (1997) writes that:

> effective discourse depends on how well the educator can create a situation in which those participating have full information; are free from coercion; have equal opportunity to … advance beliefs, challenge, defend, explain, assess evidence, and judge arguments; become critically reflective of assumptions; are empathic and open to other perspectives; are willing to listen and to search for common ground or a synthesis of different points of view; and can make a tentative best judgment to guide action (p. 10).

The efficacy of the MCDT as a supplement to student learning during clinical rotations was subsequently submitted to evaluation processes. The next section provides insight into how the MCDTs were implemented and evaluated.

## 9.3 Methodology

The purpose of the evaluation was to gain insight into whether the MCDTs augmented clinical rotation learning. Therefore, the main question that guided the evaluation was:

> To what extent was the MCDT effective in augmenting student learning during the clinical rotations?

Cognitive apprenticeship principles, facilitated by transformative learning pedagogies, were the basis of the modifications, and so the main question was explored according to the following sub questions:

I. Which cognitive apprenticeship principles were evident in the MCDTs?
II. Which transformative pedagogies were effective in creating opportunities for learning in the MCDTs?
III. To what extent did transformative learning occur?
IV. What were students' perceptions of the MCDT as a means of enhancing learning during the clinical rotations?

In 2016, six MCDTs, facilitated by practising clinicians, were implemented at the conclusion of rotation blocks in the final year of the MBBS for all students. There were 12 tutorial groups, each comprised of approximately 10 students (n = 112). Prior to the implementation, each of the 12 tutors received facilitation training that focussed on transformative pedagogies such as collaborative group learning techniques, questioning skills and critical discourse, as well as the purpose and format of the MCDT. Two hours were timetabled for each MCDT; however, the actual duration was determined by each group independently. To encourage attendance, tutorials were held on weekday evenings at the University or hospital sites. Social and collegial networks were considered when creating groups to ensure students felt supported in a relaxed, friendly environment.

The structure of each MCDT included both formal and informal components. The formal component comprised a structured case presentation of a complex professional issue (as identified by students during their clinical rotations), which students were required to prepare for by undertaking a literature review in an effort to identify potential management strategies that they would discuss during the tutorial. The informal component encouraged students to share their clinical rotation experiences in a less structured way, allowing for debriefing and collegial support. The tutor encouraged both positive and negative incidents to be shared, but it was not mandatory for students to do so. Discussions were led by students with guidance from the tutor.

### 9.3.1 Data Collection

Data were gathered from both students and tutors to determine the effectiveness of the MCDTs. Students were asked to complete an eight-item evaluation survey once the MCDT programme had ended. The survey (see Appendix 1) was comprised of qualitative and quantitative questions designed to elicit students' perceptions of the efficacy of the MCDT, in terms of the extent to which cognitive apprenticeship strategies and transformative pedagogies were evident in the tutorials. The questions eliciting perceptions of transformative pedagogies were designed based on De La Salle University's Transformational Pedagogies Framework (Bernardo, 2010), which foregrounds strategies associated with critical discourse, the role of the teacher and the classroom climate (see Appendix 2). Open-ended questions sought to elicit evidence of transformative learning.

Following distribution of the evaluation survey during the last MCDT, tutors were asked to facilitate a group discussion about the MCDT structure within their tutorial. Based on the outcomes of these discussions, tutors were later asked to provide feedback about how the MCDT could augment post-practicum learning. Of the twelve tutors, three had already completed their tutorials for the academic year and thus did not contribute. Despite reminders, only three of the remaining nine tutors responded. These responses took the form of written comments from two tutors via email, and the third tutor provided the consensus survey response from their tutorial group based on prescribed questions (see *Tutor Discussion Questions*, Appendix 1).

### 9.3.2 Data Analysis

Students could respond to the quantitative questions in the survey using a sliding scale ranging from 0 to 100% (with the figure indicator concealed) or by marking a grid box which ran from 10 to 100% in increments of 10 to indicate the extent to which they agreed with each item. A response was determined positive if a student awarded 50% or more on the sliding scale or if a student ticked the "50% or above" score in the box in the gird. A response was considered negative if a student awarded less than 50% on the sliding scale or ticked the 40% or lower box in the grid.

Table 9.1 provides an overview of the focus for analysis for both the qualitative and quantitative questions in the student evaluation surveys, indicating which research questions they addressed. The quantitative questions were analysed by determining a percentage to which the students agreed with the statement (i.e. the frequency of positive responses). The higher the percentage, the greater the likelihood that the cognitive apprenticeship principles (or transformative pedagogies) were evident.

**Table 9.1** Analysis matrix for student survey questions against the research questions

| Question | Type | Designed to elicit … | Focus of analysis | Research questions |
|---|---|---|---|---|
| 1a | Quantitative | Students' perceptions of MCDT efficacy | Cognitive apprenticeship principles (modelling, coaching, scaffolding, articulation, reflection, exploration) | iv |
| 1b | Qualitative | Insights into evidence of cognitive apprenticeship principles | Evidence of CanMEDS competencies (all/any) | iii |
| | | Insights into CanMEDS competencies | | |
| | | Insights into transformative learning | | |
| 2 (a, b, c & d) | Quantitative | Insights into evidence of cognitive apprenticeship principles | (a) Coaching, scaffolding | i |
| | | | (b) Modelling, coaching, scaffolding | |
| | | | (c) Reflection | |
| | | | (d) Articulation, exploration | |
| 3 (a, b, c, d, e, f, g and h) | Quantitative | Insights into transformative pedagogies | Critical discourse | ii |
| | | | Teacher facilitation | |
| | | | Classroom climate | |
| 4 (a, b, c and d) | Quantitative | Insights into evidence of cognitive apprenticeship principles | Coaching, scaffolding, articulation, reflection, exploration | i |
| 5 (a, b, c, d, e, f, g, h, I, j, k and l) | Quantitative | Insights into evidence of cognitive apprenticeship principles | (a) Articulation, reflection, exploration | i |
| | | | (b) Modelling, coaching, scaffolding | i |
| | | | (c) Modelling, coaching, scaffolding, reflection | i |
| | | | (d) Articulation | i |
| | | | (e) Articulation, exploration, reflection | i |
| | | | (f) Transformative pedagogy (classroom climate) | ii |
| | | | (g) Exploration, articulation | i |
| | | | (h) Exploration, articulation | i |
| | | | (i) Reflection | i |
| | | | (j) Transformative learning | iii |
| | | | (k) Transformative pedagogy (tutor facilitation) | ii |
| | | | (l) Articulation, exploration | i |

(continued)

**Table 9.1** (continued)

| Question | Type | Designed to elicit … | Focus of analysis | Research questions |
|---|---|---|---|---|
| 6 | Qualitative | Insights into CanMED competencies | Evidence of CANMEDS competencies (all/any) | iii |
| | | Insights into transformative learning | Evidence of identity formation (transformative learning) | |
| 7 | Qualitative | Students' perceptions of MCDT efficacy | Cognitive apprenticeship principles (all/any) | iv |
| 8 | Qualitative | General | General | I, ii, iii, iv |

Qualitative responses were analysed using "directed content analysis" as described by Hsieh and Shannon (2005), which is when qualitative data are mapped against pre-existing categories (Cohen et al., 2007). The CanMEDS 2015 physician competency framework was selected as a classification scheme as it has been used previously to map thematic content of medical student reflections (Bennett et al., 2013). Because CanMEDS is an educational framework that identifies and describes the abilities clinicians require to meet the healthcare needs of patients effectively (Frank, Snell, & Sherbino, 2015), we thought that it would be a useful lens through which evidence of transformative learning could be gleaned. In the framework, clinician abilities are grouped into categories according to seven competency roles. The role of the medical expert is central, but a competent physician integrates the competencies of all seven CanMEDS roles (medical expert, communicator, collaborator, leader, health advocate, scholar and professional). If the goal of clinical rotations is to facilitate the transition from medical student to doctor, then one would expect evidence of some or all of these roles to emerge during final rotations and, as an extension of the clinical rotations, to emerge within the MCDTs also.

This content analysis was performed independently by two of the authors. The units of text content that were coded varied from a single word to a single sentence. The coders met, after performing an initial independent analysis, to resolve discrepancies and map the codes to categories based on the seven roles defined by the CanMEDS framework. The frequency of each CanMEDS role was then calculated. Ethics approval was received from The University of Notre Dame Australia's HREC (reference number 015142F). The next section describes the findings that emerged from this analysis.

## 9.4 Findings

Thirty-eight students completed the evaluation survey showing a 34% response rate. This response rate is in agreement with published literature on online survey response rates (Nulty, 2008). The majority of students (72%) agreed that MCDTs

were useful to their learning. On a sliding scale of 0–100%, 64% of students rated their agreement at 60% or greater. Students' perceptions of the efficacy of the MCDT was determined by presenting them with four statements that addressed different elements of the cognitive apprenticeship model. 79% of students agreed that opportunities for coaching, modelling and scaffolding were present within the MCDT. 71% of students agreed the MCDTs encouraged them to reflect on their practical experience, while 66% agreed that the MCDT provided them with opportunities to link theory to practice, thus allowing for articulation and exploration. Students were also asked about the extent to which they could discuss critical incidents which occurred in the clinical setting. Strong evidence of articulation (97%), reflection (82%), exploration (82%), scaffolding (82%), modelling (82%) and coaching (82%) was present in the students' responses, which suggests that the cognitive apprenticeship principles were active in the MCDT.

Qualitative responses provided further supporting evidence that elements of the cognitive apprenticeship model were evident in the MCDTs and that these elements enhanced learning. For example, 38 students provided 71 *responses* as to whether the MCDT enhanced their learning; *25 responses* indicated that articulation of concerns and experiences was beneficial ("Yes, opportunity to discuss and clarify medico-legal and ethical issues"); *11* indicated that students were encouraged to reflect ("Reflective practice with an experienced tutor is hugely beneficial"); 9 indicated that facilitator coaching was evident ("Aspects of clinical practice and how to deal with them in the future"); 4 indicated that students' thinking and reasoning was scaffolded ("Positive: Got to see colleagues and share experiences in a supportive environment"); 4 said that the general exploration of patient cases helped solidify understandings ("Time with an experienced practitioner to ask questions, discuss experiences and concerns"); and 2 indicated that both peer and facilitator modelling of effective practice was helpful ("Good opportunity for peer teaching/learning"). Thirty percent of the responses indicated student dissatisfaction with the MCDTs. This appeared to be mostly related to logistics ("tutorials took a lot of time") and lack of student engagement ("I didn't learn anything").

Qualitative analysis also revealed evidence of two CanMEDS roles: professional (43%) and scholar (15%). With regard to the professional role, students commented that the MCDT provided them with opportunities to better understand the ethical nature of their roles as doctors ("practical application of ethical concepts", "really enjoyed being able to discuss ethical cases with my colleagues and reflect", "good ethical cases, very insightful" and "a good chance to reflect on ethical or moral issues that may be troubling/confronting for students"). Students' willingness to discuss and explore values contributing to their ethical beliefs in the MCDT suggests that transformative learning was enabled. With regard to the scholar role, students stated that the MCDT provided them with a "good opportunity for peer teaching/learning" and they appreciated "intellectually stimulating discussion in a protected environment".

Mezirow (1997) contends that learning environments that build trust lead to opportunities for open discourse, whereby perspectives can be examined and challenged – and possibly transformed. The majority of students (97%) agreed that the

environment in their MCDT group was comfortable and private; had a relaxed and nonthreatening atmosphere; and was of an appropriate size. Students unanimously endorsed the tutors' clinical expertise (100%). Additionally, students were almost universally satisfied (98%) with their tutor's skills in outlining the tutorial expectations; facilitating open and interactive discussions; and respecting the views of all individuals. Ninety-five percent of students specifically endorsed the statement "I felt able to express my opinion" and positively agreed that the classroom climate was safe for them to discuss critical incidents that occurred on rotation suggesting that transformative pedagogies were enabled in the MCDT. Also, students felt safe with each other as over half the students (58%) agreed that they would have achieved the same outcome if the tutor were one of their peers. The data also suggest that the MCDT encouraged students to consider appropriate strategies to deal with challenges in the clinical setting. Seventy-four percent of students agreed that "I have developed a strategy to deal with this critical incident", suggesting transformative learning opportunities took place within the MCDT.

Students were asked to identify the strategies they developed as a result of taking part in the MCDT to determine whether transformative learning was evident. Thirty-three students provided ninety-two comments which aligned broadly with eight strategies that were related to the development of communication skills (presentation skills) 32%, reflection 17%, professionalism (professional support) 15%, resilience 9%, patient-centred care 9%, clinical competence 7%, conflict resolution 7% and team work 3%. In analysing these strategies for association with the CanMEDS roles, it is possible to align them with five of the roles: scholar (23%), professional (22%), collaborator (21%), medical expert (17%) and communicator (17%). Scholar and professionalism were the most common roles identified by students. The CanMEDS roles of advocacy and leader were not highlighted by students in these responses.

Students' perceptions of the pedagogical approaches within the MCDTs that fostered exploration and consolidation of workplace experiences were also explored in the survey. As discussed, the majority of students had agreed the classroom climate was safe with small group size, with careful group composition allowing an openness among group members. Additionally, students' endorsed tutors' clinical expertise and facilitative skills within the tutorial. We postulate that critical discourse was thus enabled as students felt safe and supported expressing their opinions. In response to specific survey statements addressing collegial support, the majority of students agreed that "engagement with my peers in clinical debriefing tutorial helped me to *process* (79%), *understand* (76%) and *reflect* on experiences in the clinical setting (74%)". In addition students agreed that peer engagement helped them *manage* future experiences in the clinical setting (74%). Two students disagreed with the four statements; however, the majority of responses were positive, suggesting that the theories of coaching, scaffolding, articulation, reflection and exploration can be facilitated by tutors and peers. Students' responses to these statements support their recognition of the relevance of collegiate relationships.

Students also identified topics for discussion that they would have liked included in the MCDT and how the MCDT programme might be improved for future cohorts.

Of the 62 responses provided, there was a wide variation in comments ranging from no suggestions (e.g. everything works fine) to detailed considered suggestions for improvement, which may reflect the different MCDT learning environments. Many of the comments were classified as "structural", in that they provided students' suggestions for changes to the MCDT format (e.g. more time for informal discussion; not enough time for case presentations). Overall, the students predominantly requested more time to collaborate with their peers and tutor – in the safety of the MCDT – about issues experienced while on rotation. Three students highlighted the importance of careful group selection for free and open discourse to transpire. A positive classroom climate is fundamental to transformative learning, whereby students feel that they can discuss or test their ideas freely without fear of being reproached or embarrassed (Berger, 2004).

### *9.4.1 Tutor Comments*

The small number of tutor responses that were received provide some insight into the importance of their role in enabling transformative pedagogies. For example, "I encouraged honesty and constructive criticism of the medical system or their experiences within it rather than platitude, and pleased to see students say what they really think". Tutor comments also acknowledged the importance of creating a safe environment for students to engage in critical discourse, thus providing the students with opportunities for transformative learning. For example, "The focus of the CD group is probably more about people having the confidence to really say what is on their chest which obviously requires confidence in the individuals that you are considering sharing the experience with" and "Having a conducive environment, non-threatening, comfortable".

In summary, these findings suggest that students perceived the MCDT to be a valuable supplement to their clinical rotations. The principles of cognitive apprenticeship, such as coaching, modelling, scaffolding, reflection, articulation and exploration, were evident and perceived by the students to enhance their learning within their MCDTs. The types of transformative pedagogies that were evident and perceived by students as being effective in creating opportunities for learning were (a) positive classroom climate (e.g. appropriate size and composition of groupings, relaxed atmosphere, physical attributes of the meeting place), (b) critical discourse (e.g. open and interactive discussions), and (c) tutor facilitation (e.g. expert clinician, sound facilitation skills). Qualitative comments indicate that students engaged in transformative learning opportunities, although it is not possible to determine from the data if transformation actually occurred (i.e. whether students changed their perspectives, reached higher levels of understandings, or adopted newly identified strategies for future clinical practice). Some shifts in thinking were present: "Understanding that clinical uncertainty affects everyone". These comments, albeit infrequent, suggest that students were keen to cultivate a broader perspective of medicine beyond their current knowledge base. Also, evidence of the varying

CanMEDS roles, particularly that of the professional, also support this (i.e. students are becoming more aware of their transition from medical students to professional practitioners).

## 9.5 Discussion

The main aim of this study was to determine whether the MCDT is a useful activity for supplementing learning during clinical rotations. Previously, it was established that clinical practicums are essential components of medical education curricula but have limitations if they are the *sole* approach to preparing students for the workplace. Inconsistencies in supervisory competence and variation in exposure to an adequate depth and breadth of patient cases all result in variable opportunities for students to meet practicum learning outcomes.

The findings suggest that students perceive the MCDT to be a valuable extension of their clinical rotations where, in the presence of an expert clinician, they are given additional space and time to examine and make sense of their lived experiences of the clinical setting. All cognitive apprenticeship principles were evident in the MCDTs and were employed to support and enhance student learning. With the assistance of the trained tutors, students made their thinking visible through strategies such as reflection, articulation and exploration. Both the tutors and peers acted as mentors and coaches, modelling and scaffolding cognitive and metacognitive processes. Trede contends that opportunities to practice thinking like a professional are essential to the development of students' professional identity (2012). The positive and supportive tone of the MCDTs was instrumental in facilitating a collective reflexive discourse to unfold as the routine approach to learning.

These findings are in keeping with earlier studies that demonstrate the importance of post-practicum activities in consolidating student learning. In a large study comprising 20 projects, Billet (2011) found that for workplace learning to be effective, it should be accompanied by supplemental activities that encourage students to reflect on and reconcile their practicum experiences. He found that collective reflection following work-integrated learning (WIL) can lead to "transformation of students' personal perspectives" (p. 15). While there is no evidence in the MCDT study to suggest that shifts in mindsets occurred, it can be inferred that through the cognitive apprenticeship strategies of reflection, articulation and exploration, the opportunity was certainly present. Students frequently spoke of "being able to reflect coherently and constructively" and "gauge [their] own learning experiences and capabilities".

The CanMEDS competency framework was used in this study to try and capture elements of transformation as students transition from novice to professional. The MCDTs encouraged discourse that centred on the importance of the professional and scholar roles. This is promising as it suggests that, as an extension to clinical rotations, the MCDT provided opportunities to expand learning beyond technical skills development (which is often the focus of busy clinical environments). Trede

(2012) notes the intersection of both the university and the workplace to shape students' professional identity. She believes that relying on WIL alone for the formation of professional identity is risky and instead should be appended with opportunities for students to "reflect and make sense of work-integrated learning experiences" (p. 160). The CanMEDS roles of advocate and leader were less frequently identified by students as competencies required for the workplace. This may reflect the lack of exposure students are afforded to these roles in clinical practice or may also reflect the difficulty in teaching and evaluating these roles compared to others (Frank 2005).

Importantly, the MCDT appears to supplement the "opportunistic" and random nature of learning in the clinical setting. While teaching on the run utilises methods that are critical to effective cognitive apprenticeships (such as modelling, coaching, scaffolding, articulation, reflection and exploration), they are often deployed in a fast-paced manner leaving learning to chance. As a result, the full benefits of the cognitive apprenticeship may be compromised.

Students arrive on rotation with the theoretical knowledge they have learned during the preclinical years, but, more often than not, they need help to link this theoretical knowledge to professional practice. Busy clinicians are often not aware of this disconnect and make the incorrect assumption that students "know what they are looking at" (Spouse, 1998, p. 259). Thus, students miss opportunities to link theory with practice and to have their thinking scaffolded within their ZPDs, which can lead to frustration and anxiety. The MCDT, however, affords students time and the support of the tutor and peers to revisit gaps in knowledge and, if intellectually ready, move to a higher level of competency or understanding (Vygotsky, 1978). This is in keeping with Billet's study that found post-practicum activities provide opportunities for students to "explicitly make links to, and reconciliations between, what is taught (learnt) in the academy, and what is experienced in practice settings" (2011, p. 30).

While the cognitive apprenticeship model is best implemented in the setting within which the cognitive and metacognitive processes are to be applied, the MCDT drew on students' real-life experiences but in a nonclinical setting. Thus, it can be argued that learning was contextualised, but not actually situated. Given the central focus on discourse in the MCDT, learning was nonetheless a social exchange of experiences, ideas and reflections that presented an opportunity for students to rehearse the language of the workplace setting, trialling it in the presence of an expert clinician, without fear of making mistakes. As Billet found, this social exchange during post-practicum activities is vital in helping students develop critical occupational knowledge (2011, p. 30), which may contribute to increased willingness to use this specialised language more confidently upon graduation. Furthermore, Litchfield, Frawley and Nettleton contend that while, not "in situ", professionally contextualised activities that are embedded into curricula can "encourage students to think about work-place learning more explicitly and reflectively" thus legitimising the content (2010, p. 528).

Critical discourse was a distinct feature of the MCDT but did not occur by accident. Rather it was a result of the transformative pedagogy that encouraged students to be participatory and active. Student groupings, therefore, were small and carefully orchestrated to ensure trust and safety were central to group dynamics. While the reality of the clinical workplace is that students are not able to choose with whom they work, some orchestration of the MCDT grouping is important as the overall aim is to promote open discussion and collegial support of one another. It is hoped that these positive collegial debriefing experiences will play out into future professional practice. Indeed, if the goal of clinical rotations is to support the transformation from medical student to novice clinician (Greenhill, Richards, Mahoney, Campbell, & Walters, 2018), then more discursive pedagogies are required, whereby the student is able to evaluate her or his perspectives alongside those of the clinician, peers and other health professionals.

The semi-structured format of the MCDT was an important feature of the intervention, and student feedback indicates that both the formal and informal components of the MCDT may have prepared them to be more "work-ready". The formal component of the tutorial comprised each student's case presentation and his or her facilitation of the ensuing group discussion. Structured case presentations, with a review of supporting literature to examine either positive or negative outcomes, is common throughout medical training (Florek & Dellavalle, 2016) and is therefore an important skill to develop for the workplace. Also, case-based presentations actively involve students, model professional thinking and action, provide direction and feedback, create a collaborative learning environment and, when facilitated by experienced clinicians, anchor instruction in real cases (Irby, 1994). The informal component of the MCDT, whereby students shared both positive and negative encounters with patients and other health professionals, highlighted the similarities and differences in student experiences across practice settings. Billet believes this is an important feature of post-practicum activities in that it helps students understand less constructive experiences in a more positive light (2011).

Finally, tutor comments, although limited in number, are nonetheless insightful in that they substantiate survey results indicating that the MCDTs encouraged collegiality and the development of professional networks. They also provide insight into the active, student-centred nature of learning within the MCDT and the important role of the tutor in sponsoring students into these networks. The tutors' comments acknowledge the high value students place on feedback from practising clinicians, which demonstrates their critical role in enabling students to prepare for the realities of the clinical workplace. To some extent, this may help offset the issue of "teaching on the run" as experienced during the clinical apprenticeships, as the MCDT provides an experienced clinician, at a defined time and place, to help students reflect effectively on their learning in the clinical setting. Indeed, the need for space in the curriculum to address the mismatch between workplace practice and the formal curriculum through discussions between students and senior practitioners has been recommended by others (Bennett et al. 2013).

The MCDT is a valuable feature of the MBBS curriculum, and, based on the findings from this study, this educational intervention will continue to be offered to final year students in the School of Medicine at Notre Dame to augment learning during clinical rotations. The potential for this activity to support post-practicum learning in other health professional courses is strong although it would need to be piloted across multiple sites to better understand its applicability. In addition the data are self-reported and therefore rely on the reflective capacity of survey respondents. Within our medical course, reflective practice is comprehensively integrated across all years of the curriculum. For future research, we recommend amendments to aspects of the survey to improve data collection particularly with regard to student learning outcomes as evidence of transformative learning. An extension of this project is to examine the sorts of educational interventions that are needed to adequately prepare students *before* clinical rotations and, indeed, those activities that would support their learning *during* rotations. As Billet notes, work-integrated learning alone is not sufficient to support effective student learning (2011), and post-practicum activities such as the MCDT are possibly only the start.

## 9.6 Conclusion

In summary, findings from this study indicate that students appreciated the MCDTs as an opportunity to meet with their peer group to discuss issues and to debrief and reflect on their clinical rotation experiences. The students perceived that the structure of the MCDT enhanced their learning post clinical rotations, as it helped them to develop collegial support networks and identify strategies to deal with incidents in the clinical setting, as well as to recognise the qualities they would require and need to develop as professional doctors in the clinical setting. Thus, the discussions in the MCDT were a catalyst for extending learning associated with the clinical rotations. Furthermore, the MCDT appears to be a valuable educational intervention that can address the deficits often evident in the clinical practicum. By giving students semi-structured opportunities to make sense of clinical experiences, within a small collegiate group of peers and facilitated by an attentive tutor-clinician, students are afforded the opportunity to extend their thinking to higher levels of understanding.

## Appendices

### *Appendix 1: Educational Intervention Survey*

1. Do you think CD tutorials in MED400 have been useful to your learning? Please explain your comments with two brief sentences.

2. Identify the extent to which of the following statements best describes your perception of the CDT as a useful learning experience.

   A. My understanding of what it means to be an effective clinician was enhanced by listening to other students' experiences.
   B. Receiving feedback from an experienced practitioner about my rotation experiences consolidated my understanding of clinical work.
   C. The CDTs gave me time to reflect on, and make more sense of, my experiences while on rotation.
   D. The CDTs were an opportunity to explore the relationship between what I learned on campus and what I did on rotation.

3. Which of the following statements best describes your clinical debriefing tutorial environment?

   A. The location was comfortable/private.
   B. The atmosphere was relaxed and nonthreatening.
   C. The group numbers were the right size.
   D. The CD tutor had sufficient clinical experience to facilitate the tutorial.
   E. The CD tutor clearly outlined the expectations/outcomes.
   F. Discussions were open/interactive.
   G. Views of all individuals were equally respected and considered.
   H. I felt able to express my opinion.

4. Collegial support is important as a professional practitioner. Identify the extent to which the following statements allowed you to further develop collegiate relationships with your peers during CDT

   A. Engagement with my peers in clinical debriefing tutorials helped me to *process-describe* experiences in the clinical setting.
   B. Engagement with my peers in clinical debriefing tutorials helped me to understand experiences in the clinical setting.
   C. Engagement with my peers in CD group helped me to reflect on experiences in the clinical setting.
   D. Engagement with my peers in CD group helped me to *manage future* experiences in the clinical setting.

5. Opportunities to discuss critical incidents that occurred on rotation can help you learn more about yourself as a professional. Describe the extent to which the following statements allowed you to make sense of critical incidents (e.g. those situations that were either upsetting, thought-provoking, joyful or resonated with you).

   A. I was able to discuss critical incidents from rotation.
   B. I received relevant feedback on my critical incident experience.
   C. I learnt about other students' experiences which helped me better understand mine.

D. Opportunities to discuss critical incidents is important for my professional growth as a clinician.
E. Presenting my critical incident as a case study was beneficial to my learning.
F. I felt safe presenting this issue in the clinical debriefing tutorial.
G. The clinical debriefing tutorial framework helped me explore this critical incident.
H. I could have explored this issue without attending the clinical debriefing tutorial and achieved the same outcome.
I. I have changed my behaviour after discussions in the clinical debriefing tutorial.
J. I have developed a strategy to deal with this critical incident.
K. I would have achieved the same outcome if the CD tutor was one of my peers.
L. The case presentation enhanced my learning from Clinical rotation.

6. From your clinical debriefing tutorials, what strategies did you develop for the clinical setting that will be important for you to become a good doctor? Please write three short sentences describing the strategies you have developed.
7. What would you have liked to have discussed in your CD tutorial but did not?
8. Do you have any suggestions on how CD tutorial discussions could be improved?

Tutor discussion questions:

1. Summarise the threads of the discussion resulting from the survey.
2. Name the three most important factors in the CD tutorial discussion that enhanced the learning from clinical rotation experience.

## *Appendix 2: Transformational Pedagogies Framework (Adapted from De La Salle University)*

Mezirow (1997) contends that the teacher has a critical role in creating situations that promote effective student participation in transformative learning. Transformative pedagogies that facilitate student participation have been captured in a framework for translating transformative learning theory into practice by De La Salle University. Table 9.2 is an adaptation of this framework and was the basis of analysis of responses to question 3.

**Table 9.2** Transformational Pedagogies Framework (adapted from De La Salle University)

| Transformational Pedagogies Framework | |
|---|---|
| Knowledge acquisition via critical discourse | Knowledge does not exist as a given truth before the learning process |
| | Students develop knowledge as a result of their inquiry, action or |
| | experimentation through critical discourse |
| | Through the process of collaborative inquiry, self-assessment and reflection, the students lay the foundation for lifelong learning |
| Role of the teacher | Teacher works with the students' questions about a particular topic |
| | The teacher facilitates the students' identification of questions and develops with them a plan for answering their questions |
| | The teacher's own expertise remains a valuable resource and intervenes to help students understand the questions at hand |
| | The teacher challenges students to uncover facts and concepts in interdisciplinary contexts and build knowledge by observing, hypothesizing, experimenting and discovering |
| | The teacher prompts students to take risks and explore multiple viewpoints by interacting and collaborating with one another |
| | The teacher is considered effective if, through such activities, the students are able to accomplish their plan of inquiry and consequently change or deepen their prior knowledge |
| Classroom climate | For students to succeed, the teacher has to create an atmosphere in the classroom that enhances the students' sense of self-worth, increases their self-confidence and motivation to do their best and affirms their efforts towards self-improvement |
| | The teacher also has to make the students feel that they can discuss or test their ideas and questions freely without fear of being reproached, embarrassed or reprimanded |
| | With the supportive atmosphere, the teacher is able to encourage critical and creative thinking and the expression of a variety viewpoints and approaches to different issues or problems |

## References

Ash, J. K., Walters, L. K., Prideaux, D. J., & Wilson, I. G. (2012). The context of clinical teaching and learning in Australia. *Medical Journal of Australia, 196*(7), 475. https://doi.org/10.5694/mja10.11488

Bennett, D., McCarthy, M., O'Flynn, S., & Kelly, M. (2013). In the eye of the beholder: Student perspectives on professional roles in practice. *Medical Education, 47*(4), 397–407. https://doi.org/10.1111/j.1743-498X.2012.00613.x

Berger, J. G. (2004). Dancing on the threshold of meaning: Recognizing and understanding the growing edge. *Journal of Transformative Education, 2*(4), 336–351. https://doi.org/10.1177/1541344604267697

Bernardo, A. (2010). The Lasallian core curriculum: development and early experiences of the revised general education curriculum of De La Salle University, Philippines. *MALIM SEA Journal of General Studies, 11*, 19–34.

Billet, S. (2011). C*urriculum and pedagogic bases for effectively integrating practice-based experiences*. *Australian Learning and Teaching Council*. Final report 2011 Griffith University, Brisbane, Australia.

Billett, S. (2001). Learning through work: Workplace affordances and individual engagement. *Journal of Workplace Learning, 13*(5), 209–214. https://doi.org/10.1108/EUM0000000005548

Billett, S., Cain, M., & Le, A. (2016). Augmenting higher education students' work experiences: Preferred purposes and processes. *Studies in Higher Education, 43*, 1279. https://doi.org/10.1080/03075079.2016.1250073

Cohen, L., Manion, L., & Morrison, K. (2007). *Approaches to qualitative data analysis. Research methods in education* (pp. 475–491). New York: Routledge.

Collins, A., Brown, J. S., & Holum, A. (1991). Cognitive apprenticeship: Making thinking visible. *American Educator, 15*(3), 6–11.

Flexner, A. (1910). *Medical education in the United States and Canada. A report to the Carnegie Foundation for the Advancement of Teaching*. Boston: Updyke Retrieved from the web 28-3-2018 at http://archive.carnegiefoundation.org/pdfs/elibrary/Carnegie_Flexner_Report.pdf

Florek, A. G., & Dellavalle, R. P. (2016). Case reports in medical education: A platform for training medical education students, residents, and fellows in scientific writing and critical thinking. *Journal of Medical Case Reports, 10*, 86. https://doi.org/10.1186/s13256-0851-5

Frank, J. R. (Ed.). (2005). *The CanMEDS 2005 Physician Competency Framework. Better standards. Better Physicians. Better Care*. Ottawa, ON: The Royal College of Physicians and Surgeons of Canada.

Frank, J. R., Snell, L., & Sherbino, J. (Eds.). (2015). *CanMEDS 2015 Physician Competency Framework*. Ottawa: Royal College of Physicians and Surgeons of Canada.

Furmedge, D. S. (2008). Apprenticeship learning models in residents: Are they transferable to medical students? *Medical Education, 42*, 856–857.

Goldie, J. (2012). The formation of professional identity in medical students: Considerations for educators. *Medical Teacher, 34*(9), e641–e648.

Greenhill, J., & Poncelet, A. N. (2013). Transformative learning through longitudinal integrated clerkships. *Medical Education, 47*, 336–339. https://doi.org/10.1111/medu.12139

Richards, J., Sweet, L., & Billett, S. (2013). Preparing medical students as agentic learners through enhancing student engagement in clinical education. *Asia-Pacific Journal of Cooperative Education, 14*(4), 251–263. http://hdl.handle.net/2328/27780

Greenhill, J., Richards, J. N., Mahoney, S., Campbell, N., & Walters, L. (2018). Transformative learning in medical education: Context matters, a South Australian longitudinal study. *Journal of Transformative Education, 16*(1), 58–75.

Honebein, P. C., Duffy, T. M., & Fishman, B. J. (1993). Constructivism and the design of learning environments: Context and authentic activities for learning. In T. M. Duffy, J. Lowyck, D. H. Jonassen, & T. M. Welsh (Eds.), *Designing environments for constructive learning* (NATO ASI Series (Series F: Computer and Systems Sciences)) (Vol. 105). Berlin/Heidelberg, Germany: Springer.

Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277–1288.

Irby, D. M. (1994). Three exemplary models of case-based teaching. *Academic Medicine, 69*(12), 947–953.

Irby, D. M., Cooke, M., & O'Brien, C. (2010). Calls for reform of medical education by the Carnegie foundation for the advancement of teaching: 1910 and 2010. *Academic Medicine, 85*(2), 220–227.

Kalet, A. L., Coady, S. H., Hopkins, M. A., Hochberg, M. S., & Riles, T. S. (2007). Preliminary evaluation of the Web Initiative for Surgical Education (WISE-MD). *American Journal of Surgery, 194*(1), 89–93.

Köhl-Hackert, N., Krautter, M., Andreesen, S., Hoffmann, K., Herzog, W., Jünger, J., et al. (2014). Workplace learning: An analysis of students' expectations of learning on the ward in the Department of Internal Medicine. *GMS Zeitschrift für Medizinische Ausbildung, 31*(4). https://doi.org/10.3205/zma000935 eCollection 2014.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press, New York.

Litchfield, A., Frawley, J., & Nettleton, S. (2010). Contextualising and integrating into the curriculum the learning and teaching of work-ready professional graduate attributes. *Higher Education Research & Development, 29*(5), 519–534. https://doi.org/10.1080/07294360.2010.502220

Lyons, K., McLaughlin, J. E., Khanova, J., & Roth, M. T. (2017). Cognitive apprenticeship in health sciences education: A qualitative review. *Advances in Health Science Education, 22*, 723–739. https://doi.org/10.1007/s10459-016-9707-4

Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education, 74*, 5–12.

Monrouxe, L. V., Grundy, L., Mann, M., John, Z., Panagoulas, E., Bullock, A., et al. (2017). How prepared are UK medical graduates for practice? A rapid review of the literature 2009–2014. *BMJ Open, 7*, e013656. https://doi.org/10.1136/bmjopen-2016-0.13656

Murray, R. B., & Wilson, A. (2017). Work-readiness and workforce numbers: The challenges. *Medical Journal of Australia, 206*(10), 5 June, Editorial.

Nulty, D. D. (2008). The adequacy of response rates to online and paper surveys: What can be done? *Assessment and Evaluation in Higher Education, 33*(3), 301–314. https://doi.org/10.1080/02602930701293231

Spouse, J. (1998). Scaffolding student learning in clinical practice. *Nurse Education Today, 18*(4), 259–266. https://doi.org/10.1016/S0260-6917(98)80042-7 Retrieved from the web 21-5-2018 at https://www.researchgate.net/publication/13439470_Scaffolding_student_learning_clinical_practice

Stalmeijer, R. E., Dolmans, D. H., Wolfhagen, I. H., & Scherpbier, A. J. (2009). Cognitive apprenticeship in clinical practice: Can it stimulate learning in the opinion of students? *Advances in Health Science Education Theory Practice, 14*(4), 535–546. https://doi.org/10.1007/s10459-008-9136-0

ten Cate, O., & Steele, F. (2007). Competency-based postgraduate training: Can we bridge the gap between theory and clinical practice? *Academic Medicine, 82*(6), 542–547.

Trede, F. (2012). Role of work-integrated learning in developing professionalism and professional identity. *Asia-Pacific Journal of Cooperative Education, 13*(3), 159–167.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University press.

Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. Cambridge, UK: Cambridge University Press.

# Part III
# Processes of Feedback and Debriefing

# Chapter 10
# Bouncing Forward: A Post-Practicum Workshop to Promote Professional Identity, Self-Efficacy, and Resilience in Master of Speech Pathology Students


**Elizabeth Cardell and Andrea Bialocerkowski**

## 10.1 Introduction

All universities aspire to produce capable, competent graduates who will flourish in the workforce and be meaningful contributors to society. Work-integrated learning and practicum experiences, which aim to provide authentic learning experiences that translate knowledge into practice, have become a key strategic focus of contemporary student education and workforce preparation (Ferns, 2014). These practicum experiences provide students with a plethora of new learnings, both for the development of their competencies and capabilities. Therefore, post-practicum time periods are rich opportunities-in-waiting for augmenting and enhancing students' learnings and sense-making of new experiences.

Speech pathology university training programmes involve extensive practicum experiences. Speech pathologists work with people who have difficulties with communication and swallowing and promote the position that these two abilities are basic human rights. When the gift of communication or swallowing is impaired, an individual's quality of life and connectedness with society are lessened. The lives of the patient's inner circle of people are also radically affected. Speech pathologists, therefore, work with vulnerable populations and bear witness to the suffering and distress of their patients and their loved ones. Hence, strong coping and self-management skills, good emotional regulation, and adaptability are important personal attributes for a speech pathologist. For students, as developing professionals, the impact of the realities they experience in their professional placements (prac-

E. Cardell (✉)
Menzies Helath Institute Queensland, School of Allied Health Sciences, Griffith University, Southport Queensland, Australia
e-mail: e.cardell@griffith.edu.au

A. Bialocerkowski
School of Allied Health Sciences, Griffith University, Southport Queensland, Australia



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_10

tica) can be confronting and profound. Obviously, in speech pathology programmes, developmental trajectories for knowledge and skill acquisition are followed, and academic learning activities and clinical practica are carefully considered and scaffolded as students move from novice level to entry level. Although standardised tools have been developed and are implemented to evaluate student competencies in speech pathology (i.e. COMPASS ®: McAllister, Ferguson, Lincoln, & McAllister, 2013), no routine assessments focus on important attributes and capabilities such as professional identity, self-efficacy, and resilience which may equip students to better "handle the unexpected", make sense of negative experiences, and prompt proactive action. Further, there is no evidence in speech pathology or any other of the allied health disciplines (such as occupational therapy and physiotherapy) underpinning the development of activities related to these three constructs (McCann et al., 2013), which we argue are intertwined and central to student success, their transition into workforce, and to ensure longevity and success in the workforce itself as qualified practitioners. We further argue that directly targeting these three areas as a post-practicum debriefing exercise provides powerful context and immediate application. We present the *Bouncing Forward* workshop as an example of this application. However, first, the constructs of professional identity, self-efficacy, resilience, and their relationships need further elaboration.

## 10.2 Professional Identity, Self-Efficacy, and Resilience: Inextricably Linked

Practicum experiences are powerful in promoting growth in individuals' professional identity. Professional identity is defined as "the relatively stable and enduring constellation of attributes, beliefs, values, motives, and experiences in terms of which people define themselves in a professional role" (Ibarra, 1999, pp. 764–765). In addition to these beliefs and values of the chosen profession, professional identity captures the profession's boundaries and its interactions alongside other professionals (Adams, Hean, Sturgis, & Clark, 2006; Lingard, Reznick, DeVito, & Espin, 2002). Professional identity is important, too, as it engenders a sense of direction, purpose, and meaning (Ibarra, 1999). Indeed, Caza and Creary (2016) contended that psychological benefits emerge from positive identities within a profession. Teaching students their chosen profession's knowledge and skill base is something that university programmes do well, and these competencies frequently are specified by professional accreditation requirements. Arguably, enculturating students into their profession is just as important and should start from the onset of all professional preparation programmes and be purposefully targeted over the course of study.

When students attend practica, they possess emerging professional identities; they are not experts in their chosen profession or in navigating the plurality of their new work roles. Even the best practicum preparation briefings cannot fully prepare

students, as students possess different and wide-ranging expectations. In addition, briefings cannot define or explain all experiences, either positive or negative, that students may encounter. Understanding the beliefs and values of the profession, its boundaries, and its accountabilities is one way of framing expectations and can be used by students to make sense of their new experiences. However, the reality is that workplaces can be unpredictable and unexpected events will occur. As stated, students undertaking health practica will work with vulnerable populations which, in itself, can be confronting and stressful. In these environments, there is an increased likelihood of adverse events (Jackson, Firtko, & Edenborough, 2007). In addition, work is fast-paced and involves human caring and interaction with multiple professional groups (McAllister & McKinnon, 2009). As well as demonstrating the required professional competencies, students also require the appropriate knowledge, skills, and attributes to handle all of these demands during their practica. Having a strong sense of professional identity may aid the ability to cope in the workplace, but students' identities are still forming during these practicum experiences; hence, the opportunity to maximise learning around professional identity may be well-placed post-practicum.

The ability to cope in unpredictable practical environments appears to be key to student success during practica. Two constructs which have been linked to coping and academic demands (e.g. Cassidy, 2015; Hamill, 2003), and which recur in the positive psychology literature, are self-efficacy and resilience. The seminal work by Bandura (1994) states that self-efficacy refers to "people's beliefs about their own capabilities to produce designated levels of performance that have influence over meaningful events in their lives" (p.71). As such, self-efficacy determines how an individual approaches goals, tasks, and challenges (Bandura, 1994). Bandura (1994) further argues that a strong sense of efficacy positively influences individuals' performance and their sense of well-being. Clearly, high levels of self-efficacy are an asset which may facilitate a person's ability to deal with the immediate "now" of difficult situations and their aftermath in a considered and constructive manner. The workforce literature supports this notion with evidence supporting that self-efficacy is contextual and dynamic but can be increased by structured education programmes (Garman et al., 2001).

Psychological resilience can be defined as the ability to cope with life's uncertainties and challenges and having the capability to rebound quickly to a positive, productive state following a negative event (Garcia-Dia, DiNapoli, Garcia-Ona, Jakubowski, O'Flaherty, 2013). Rutter (1985) posits resilience at the other end of a continuum with vulnerability. Jackson et al.'s (2007) view of resilience in the nursing profession is that developing personal resilience can reduce vulnerability and facilitate positive action in the face of adversity. Evidence suggests that resilience can be developed by learning activities, with high, positive expectations, in a learner-centred environment, with supportive peer relationships (Gu & Day 2007; McAllister & McKinnon 2009; Thomas & Revell, 2016).

Thomas and Revell's (2016) integrative review of nursing students' resilience drew links between resilience and its important preparatory role for professional practice. Bandura (1994) connects self-efficacy and resilience insofar as mastering

tasks and acquiring self-belief about these require perseverance and the ability to rebound from failures and to move forward. High levels of self-efficacy and resilience appear to be cornerstone to coping with the demands of higher education and those associated with the workplace and promoting positive action and well-being, more generally (Bandura, 1994; Hamill, 2003; Hart, Brannan, & De Chesnay, 2014; Rees, Breen, Cusack, & Hegney, 2015). In the current university climate with rates of anxiety-mood disorders in Australian university students being significantly higher than in general population (Stallman, 2010), strategies that assist students to cope with their learning experiences and equip them for the workforce need to be a priority.

To prepare students for the workforce and its dynamic and unpredictable environment, targeting professional identity, self-efficacy, and resilience in university programmes may be one strategy. For successful resolution of challenging experiences that students might face, high levels of each of these constructs may assist the student to handle negative, stressful, or traumatic experiences in a constructive way and move on from these and make sense of these experiences, thereby retaining some control over their environments and themselves. Combining these three constructs would appear to be a powerful inoculation. Therefore, we argue that these three constructs are intertwined when related to students' practicum experiences and should be considered concurrently.

## 10.3 Current Speech Pathology Education: New Perspectives

The Master of Speech Pathology programme at Griffith University, Australia, commenced in 2012 and is a 2-year accredited professional preparation programme which admits approximately 40 high-performing students per year (i.e. minimum grade point average of 5.0 from a maximum of 7.0) from varying undergraduate backgrounds. All students are interviewed as part of the selection process, with highly developed communication and interpersonal skills, professionalism, teamwork, and the ability to problem-solve being important attributes. Historically, the majority of students are female (> 90%), and this mirrors the professional workforce in Australia (www.joboutlook.gov.au). Students must "hit the ground running" as they commence their first practicum experience in Week 2 of their first trimester of study. Gaining the 11 competencies and capabilities required to be an entry-level speech pathologist in Australia must occur quickly, across four trimesters of study in two calendar years. Students report high levels of stress associated with the accelerated learning trajectory towards acquiring professional knowledge and clinical competencies. This may be associated not only with the intensive workload but with the anecdotal report that students find that their former identities are deconstructed and then reconstructed in line with being a speech pathologist. Attrition rates tend to mirror the post-graduate university sector in Australia (10–20%), with the greatest attrition occurring at the end of Trimester 1 in Years 1 and 2 of the programme. Feedback from students has indicated that much of the attrition

can be attributed to the programme's intensive nature and the "steep learning curve" required which impacts on students' level of stress and their ability to cope in this type of environment.

This feedback led to acknowledgement that the development of professional identity, self-efficacy, and resilience formed part of the hidden curriculum, that is, "unspoken or implicit values, behaviours, procedures and norms that exist in an educational setting" (Alsubaie, Hean, Sturgis, & Clark, 2015, p. 125). Professional identity was addressed and embedded throughout many curricular learning activities, and although the construct was articulated, it was not explicitly targeted. It has been said that professional identity construction is an active process by "doing, acting, and interacting" in a social context (Pratt, 2012; p. 26), and the structure of the Master of Speech Pathology programme with its problem-based learning pedagogy and early practicum experiences certainly speaks to this notion. It was hypothesised that the summed experiences of the entire curriculum developed professional identity as well as self-efficacy and resilience. However, a paucity of evidence exists regarding when and how professional identity is developed across speech pathology programmes. Given the importance of professional identity and the proposed connections to self-efficacy and resilience, leading to the ability to cope in typical work environments, we felt that enquiry was warranted in this cohort of students.

Similarly, the high levels of stress reported by students during both academic and clinical work were of concern. While curricular streamlining has occurred, self-reported stress levels remained high. A recent Australian survey of 2600 TAFE and university students found that two-thirds of respondents reported incidents of high or very high levels of psychological distress over the past 12 months (www.headspace.org.au). The data on stress and anxiety in university students is worrying (Stallman, 2010), as is burnout in the health workforce (Ferri, Guerra, Marcheselli, Cunico, & Di Lorenzo, 2015; Humphries, Morgan, Conroy, McGowan, & Montgomery, 2014). In speech pathology, burnout has been a long-standing issue (Blood, Thomas, Ridenour, Qualls, & Hammer; 2002; Miller & Potter 1982; Swideler & Ross, 1993). Therefore, it was proposed that the introduction of targeted post-practicum (and potentially pre-practicum) activities on professional identity, self-efficacy, and resilience may assist academic staff to provide support to students in areas which are typically neither identified nor specifically targeted in the speech pathology curriculum but are important for successful academic outcomes and success in their future professional lives.

## 10.4 Post-Practicum Intervention: A Mechanism for Psychological and Professional Growth

"Knowledge is power" – *Francis Bacon*. The intervention was a clinical debriefing workshop which aimed to increase students' understanding of the meaning of the three constructs of professional identity, self-efficacy, and resilience at a deep,

meaningful level by drawing on their own practicum experiences as a reference point and an anchor for their learning. This contextually mediated approach has known benefits for adult and professional learning (Webster-Wright, 2009). First, increasing students' self-awareness of their personal perceptions and capacities in each construct was targeted, allowing students the opportunity to identify personal strengths and areas which required attention. Second, application was targeted, and students built on the three constructs through active-guided self-reflection to identify concrete strategies to "handle the unexpected" in the context of professional placements, with the hope that these new insights and learnings would be taken forward into their next practicum. In addition, an understanding was sought regarding the level and patterns of professional identity, self-efficacy, and resilience across students in the programme as a means of informing future curriculum development.

The 2-hour post-practicum workshop was implemented following students' 12-week practicum at the end of Trimester 1 in Year 2. This is a point in time when high attrition has been observed. More pivotally, this practicum was specifically selected as students must reach entry-level across a range of competencies, and, in doing so, this represents the largest clinical progression in the speech pathology programme. Therefore, this practicum has the potential to place additional stress on students. The workshop was titled *Bouncing Forward* to reflect the positive nature of resilience and positive psychological well-being.

## 10.5 *Bouncing Forward* Approach

The premise of the *Bouncing Forward* workshop was based on Piaget's seminal paradigms on cognitive development whereby "learners must construct their own understanding through making connections in their own schemata" (Cross, 1999, p. 9). To this end, the 2-hour workshop employed an overarching pedagogical framework which purposefully combined three approaches known to enhance adult learning, namely, social constructivism, experiential learning, and collaboration (e.g. Cross, 1999; Major & Palmer, 2001; Webster-Wright, 2009), to promote active and deeper learning experiences. The sum of these approaches meant that the workshop used students' personal experiences and knowledge, and the sharing of this, in a systematic and targeted manner to create a learner-centred environment to facilitate metacognitive processes of reflection, awareness, and self-evaluation. This approach created new insights and learnings around the three constructs of professional identity, self-efficacy, and resilience.

At the activity level, reflection became a key strategy which was threaded throughout the workshop. As Schön (1983) contended, the reflective practitioner is able to recognise and explore confusing or unique (positive or negative) events that occur during practice. In line with self-reflection models (e.g. Gibbs, 1988; Kolb, 1984), three fundamental processes were facilitated, namely, (1) retrospection, thinking back on events; (2) self-evaluation, attending to feelings; and (3) reorienta-

tion, re-evaluating experiences. In addition, the Think-Pair-and-Share technique (Karge, Phillips, Jessee, & McCabe, 2011), an effective collaborative learning strategy for adult learners, was employed consistently in each module. This technique requires a supportive, nonthreatening environment to allow students to formulate their personal opinions on a topic and then share their views with a peer. Under Kelly's (1955) personal construct theory, objects, events, and experiences only become meaningful when viewed from the perspective of the person construing the meaning. Hence, the Think-Pair-and-Share technique (and other reflective tasks in the workshop) becomes more effective when salient, that is, when applied to the learner's constructions as opposed to those of the teacher's. Always, a Think-Pair-and-Share task was followed by a coming together of everyone to share with the larger group, if they chose to do so, resulting in whole group discussion of trends, differences, and themes in this new micro-community. Further, this socially constructed peer learning promoted vicarious experiences, which is a well-known strategy for enhancing self-efficacy (Bandura, 1994).

## 10.6 *Bouncing Forward* Practicalities

Two academic staff facilitated the post-practicum workshops. One staff member, the first author, led the workshops. The second staff member had a number of roles: (1) to distribute and collect resources; (2) to facilitate discussion during the interactive paired and group activities; and to act as a "compatriot" or support person to the lead facilitator to purposefully reinforce statements and notions, thus modelling a micro-community of professional consensus. The support person required no training and was guided by the lead facilitator throughout the session. The intent, here, was both to ease implementation and implement a train-the-trainer model, for sustainability.

The key design principles for the Bouncing Forward workshop are shown in Table 10.1. Specific resources developed for the workshop activities are outlined in Table 10.2.

**Table 10.1** Key design principles for the workshop

| |
|---|
| Explicit, easy to operationalise format and resources |
| Expectation setting and clear ground rules to create a safe, unconditionally driven environment, with no rights or wrongs, to facilitate a student-centred environment |
| Systematic and consistent approach to delivery and format of the three constructs |
| Salient and meaningful examples generated by the students |
| Feeding forward – workshop could easily be delivered by another person |
| Transferable – generic enough so that other professions could use the resources with minimal adjustments |
| Sustainably – low costs with respect to staffing and resources, and easy implementation |

**Table 10.2** Resources

| |
|---|
| A lesson plan for the entire workshop, including the time taken for each of the learning activities |
| A PowerPoint presentation that guided the four workshop stages |
| Three questionnaires for students to complete at the start of each module (i.e. one for each construct of professional identity, self-efficacy, and resilience) |
| A worksheet on professional identity |
| A one-page information sheet on self-efficacy and strategies that could be used to enhance self-efficacy |
| A one-page information sheet on resilience and strategies that could be used to enhance resilience |
| Butcher's paper and marker pens for the integrated clinical dilemma learning activity |

## 10.7 The *Bouncing Forward* Format

The workshop comprised four distinct stages, namely:

1. ***Introduction***: Scene-setting was undertaken in which the purpose of the workshop was explained to the students and ground rules were established and introduced (i.e. respect, confidentiality, unconditional acceptance of views; positive contributions).
2. ***Construct Modules***: At the start of each module, a questionnaire was completed by each student, both as a self-awareness promoting activity and as a primer for self-reflection, and was followed by discussion. Learning activities then followed. The questionnaires also were part of the data collection and evaluation of broader questions around understanding the nature of the three constructs in master-level speech pathology students.

   Specifically, the three modules rolled out as follows:

1. Professional Identity Module

   (a) The *Professional Identity in Speech Pathology Questionnaire* was completed by the students. This questionnaire combined the Macleod Clark Professional Identity Scale (Adams et al., 2006) with questions previously used in allied health students (du Toit, Bialocerkowski, Weaver, Bye, & Salmanson, 2011), which were further focused on speech pathology students. The Macleod Clark Professional Identity Scale has adequate psychometric properties (Adams et al., 2006, Cowin, Johnson, Wilson, & Borgese, 2013, Worthington, Salamonson, Weaver, & Cleary, 2013). This questionnaire was administered without the title; thus, students were unaware of the intent of the questions to act as a focussed prime to generate class discussion immediately following its completion. This questionnaire was not scored by students.

(b) Students were requested to guess the construct that they believed was being targeted by the questionnaire. The construct was then revealed by the facilitator.
(c) Students then completed the professional identity worksheet which was a practical activity developed by the authors. It involved two tasks: (1) marking, on a 10 cm visual analogue scale where they positioned themselves on a continuum from novice student to practising speech pathologist, and (2) writing down five words that exemplified an excellent practising speech pathologist. These responses also represented rich data sources on students' current perceptions of professional identity applied to themselves and to the profession at large.
(d) Students paired to share and discuss their worksheet responses.
(e) Key aspects of the pair discussions were shared with the whole class, and frequent themes were identified.
(f) A brainstorming activity with the whole class was undertaken with two trigger questions: (1) What is professional identity? (2) Why is it important?
(g) The facilitator then delivered the PowerPoint presentation with prepared responses to these questions.

2. Self-Efficacy Module

(a) The *General Self-Efficacy Scale* (Schwarzer & Jerusalem, 1995) was completed by the students. This scale has been used in hundreds of studies, and psychometric properties can be found in Luszczynska, Sholz, and Schwarzer (2005). As for the first module, and for the same reasons, this questionnaire was administered without the title; thus, students were unaware of the intent of the questions. This questionnaire also was not scored by students.
(b) Students were requested to guess the construct that they believed was being targeted by the questionnaire. The construct was then revealed by the facilitator.
(c) A brainstorming activity with the whole class was undertaken with two trigger questions: (1) What is self-efficacy? (2) Why is it important?
(d) The facilitator delivered the PowerPoint presentation with prepared responses to the trigger questions.
(e) Strategies that enhance self-efficacy were presented via a handout.
(f) Students paired to share and discuss self-efficacy strategies they currently employ.
(g) Key aspects of the pair discussions and stories of success were shared with the whole class and reinforced.

3. Resilience Module

(a) The *Personal Resilience Questionnaire* (Organizational Development Resource, 1996) was completed and scored by students as a targeted workshop task so that they gained a profile of their own performance across six domains (i.e. sense of purpose, positive mental attitude, connection with

others, determination, taking control, looking after yourself) to reflect upon and use as a reference point for identifying areas to work on.
(b) A brainstorming activity with the whole class was undertaken with two trigger questions: (1) What is resilience? (2) Why is it important?
(c) The facilitator delivered the PowerPoint presentation with answers to these questions.
(d) Strategies that enhance self-efficacy were presented via a handout.
(e) Students paired to share and discuss resilience strategies they currently employ.
(f) Key aspects of the pair discussions and stories of success were shared with the whole class and reinforced.

3. ***Integrated Clinical Dilemma Activity***: This activity involved groups of 6–8 students. Gibb's (1988) reflective cycle formed the essential framework for this activity. This cycle encourages a clear description of the situation, analysis of feelings, evaluation of the experience, analysis to make sense of the experience, a conclusion where other options are considered, and reflection upon the experience to examine what you would do if the situation arose again. To this end, student groups identified clinical dilemmas that had been faced during their recent practicum. One of these dilemmas was then selected by each group for further discussion, and butchers paper was used to record responses. Students described the dilemma and information regarding the initial reactions (feelings and behaviours) to the situation, strategies that were taken to resolve the situation, the outcomes of these strategies, and reflections of the effectiveness of the strategies. The student group then brainstormed to identify other potentially helpful strategies, and reflection was undertaken to determine what could be done differently next time. This shared authorship was intentional and a key element of the social and collaborative intent underpinning the workshop. Student groups were then invited to share their dilemmas and responses to the larger group, followed by facilitated whole-class discussion with input from all groups. Groups did not have to feedback to the larger group if they did not wish; however, all groups were keen to share and gain further comments from others.

4. ***Closure summary and action***: As a final task, students wrote down 2–3 specific strategies that emerged from the workshop that they would take forward into their next and final practicum, to include in their next practicum's learning contract. Learning contracts form a central part of developing competencies on practicum in the Master of Speech Pathology programme, whereby students complete their contract prior to undertaking a practicum and during the first days of the practicum agree upon strategies to address their learning needs with their supervisor. Then, students were invited to share any new insights, learnings, or strategies from the workshop to the class. Finally, PowerPoint slides were then used to summarise the three constructs covered in the workshop and the take-home messages.

## 10.8 Workshop Outcomes

### *10.8.1 Student and Staff Reach*

The *Bouncing Forward* post-practicum debriefing workshop has been conducted twice with 29 Year 2 Master of Speech Pathology students in 2016 and 37 students in 2017. It is these data that will be reported, primarily. However, demonstrating that the "easy to operationalise" and "transferability" design features (and others) of the workshop were robust, Year 3 Bachelor of Nutrition and Dietitian students participated in an end of Trimester 2 workshop in 2016 and 2017, with one new facilitator trained. Furthermore, in late October, 2017, the workshop will be delivered to Bachelor of Paramedicine students, with another facilitator being trained. Other health disciplines (rehabilitation counselling, physiotherapy) have registered their interest. Therefore, the workshop is attracting good levels of staff and university interest. Data will be collected with these new programmes.

### *10.8.2 Workshop Evaluation*

Overall, from an engagement perspective, the workshop mode and pedagogy appeared to be effective in its combined constructivist, experiential, and collaborative approach and use of guided facilitation to allow students to reflect, declare, and share in a safe environment. This mode and pedagogy was well-aligned with the Master of Speech Pathology curriculum. The curriculum adheres to a relatively purist problem-based learning pedagogy and therefore is underpinned by experiential learning and collaboration to construct new learning (Major & Palmer, 2001). Therefore, it was not surprising that these students strongly engaged in all activities. Pleasingly, the clinically less experienced Bachelor of Nutrition and Dietetics students also ended up engaging strongly with all activities; initially, these groups needed a little more prompting to share, which might reflect the fact that PBL does not underpin this programme or that these students have fewer clinical experiences to draw on or are younger compared to the Master of Speech Pathology students.

The workshop was formally evaluated in 2017 after its second offering to 37 Year 2 speech pathology students. The evaluation survey was conducted the day after the workshop, and 24 responses were received. A customised evaluation tool was developed which took into account.

Kirkpatrick's (1996) level 1 programme outcomes (reaction, satisfaction, value) through six questions, and level 2 programme outcomes (new learning, knowledge) through six questions. In addition, information about the organisation and usability of the workshop and its activities was collected through five questions. Likert scale questions, forced choice questions, and questions that required open text responses were used. The results supported the high levels of engagement that had occurred during the workshops and the informal verbal feedback elicited at the completion of

the 2016 pilot workshop. In response to the question, "How useful was this workshop?" there was consensus that it was very useful. However, overwhelmingly, students reported that it would have been better to have this workshop at the start of the trimester, before this critical entry-level placement. Therefore, this workshop was conducted at the start of the Trimester 1 practicum in 2017 but still represented a post-practicum workshop and intervention as it drew on their experiences from their Year 1, Trimester 2 practicum. The specific workshop survey results are as follows.

A 5-point Likert scale, which ranged from *strongly disagree* (1) to *strongly agree* (5), was used for seven questions. A score of 3 is neutral. Table 10.3 shows the results from these questions.

These results indicated a positive reaction to the workshop that had value in fostering explicit links amongst the three constructs and the students' work lives and personal lives. The links to broader life were perhaps stronger, but this is to be expected, and the fact that links are being formed with practice is heartening. Students also reported to learn new information (Question 4).The workshop was considered to be well-organised by 100% of respondents, and although results for the workshop pace were more positive than negative, this could be improved. What arose in this particular workshop's delivery was that many students wanted to share their experiences and new learnings during the whole-class activities, which resulted in some time trade-off in some other areas. This will be managed for future workshops, through setting time parameters.

Only 41.7% of students were interested in follow-up or more advanced workshops. However, this might be a function of the current hidden curriculum around these topics or the likelihood that many students "do not know what they do not know" in these three areas, that is, a level of unconscious incompetence or the Dunning-Kruger effect (Kruger & Dunning, 1999). Also, despite our strong position around developing well-rounded graduates in the Master of Speech Pathology programme, our students tend to be very high-achieving and academically focussed, so the value of developing these capabilities will need to be impressed upon them from the outset of the programme. Indeed, one student stated that while the workshop content was *interesting*, they would have preferred the 2 hours being spent on more theoretical content *related to studies*.

**Table 10.3** Evaluation questions and number of positive responses of 4 or 5 from 24 respondents and percentages

| | | |
|---|---|---|
| 1. The workshop covered areas important for my development as a practitioner | 19 | 79.2% |
| 2. The workshop was applicable to my clinical placement work | 19 | 79.2% |
| 3. The workshop was applicable to my life, more broadly | 21 | 87.5% |
| 4. The workshop gave me new information to consider | 18 | 75% |
| 5. The programme was well paced within the allotted time | 15 | 62.5% |
| 6. The material was presented in an organised manner | 24 | 100% |
| 7. I am interested in attending a follow-up, more advanced workshop related to these topics | 10 | 41.7% |

Question 8 invited students to write down one "aha" moment they experienced during the workshop. Thirteen students responded with examples. Although themes were not extracted formally, written responses indicated that the workshop positively reinforced learning, yielded new learnings related to workshop topics, and prompted students to think about their well-being. Specific statements included:

1. Reinforced learning: "I thought it was a good reminder even if it was info I've heard before".
2. New learnings: "I need to dwell less on things that cannot be changed"; "self-efficacy… an area to work on".
3. Well-being: "I thought I was taking care of myself fairly well, but it has highlighted that you can always do more for yourself"; "I need to exercise and eat a bit better"; "realising that it is important to have faith in yourself"; "identified determination as an area to work on".
4. Stress management: "It was well placed as I was feeling overwhelmed with the recent content so gave me some perspective".

Together, these quotations suggest that the workshop acted at an individual level, as intended, and was effective in its aims to provide students with new insights and sense-making, to increase knowledge of their constructs and the importance, and to deliver a prompt for action.

Other questions also addressed the extent to which learning about each of the three constructs was extended by the workshop, relative to what they knew coming into the workshop, thus targeting Kirkpatrick's level 2. With the exception of 2 students who reported *limited* extension, the remaining 22 students reported positive extension (i.e. *somewhat* to *extremely*). Sixteen out of the 24 students also felt they could better explain all three constructs, if asked, having completed the workshop. Four students reported that they were *very good* or *perfect* at explaining these prior to the workshop and this did not increase as a result of the workshop. In addition, 20 out of the 24 respondents (i.e. 83.3%) reported that the workshop helped them to identify one area for them to work on in the future, which was a positive outcome around the value of the workshop and, if implemented, would address Kirkpatrick level 3, that is, a change in behaviour as a result of the workshop.

In relation to operational factors, 17 out of 24 students reported that the timing was positioned at the "right time" in their programme of study, with a further 5 students stating that it was "too late". That is, 91.7% of students did not want this workshop any later in the programme. Therefore, the decision to respond to the first workshop's informal student feedback and conduct this workshop earlier, at the start of Trimester 1 Year 2 rather than at the end of this trimester, was a sound move which resonated with students. Students also were asked to rate each module's usefulness. With the exception of one student who rated all modules as having *limited* usefulness to them, all modules received mostly *moderately* useful and *very* useful ratings, with some *extremely* useful responses also occurring.

In terms of what students felt was best or most enjoyable about the workshop, undertaking the questionnaires, and in particular scoring the resilience questionnaire, was a strong theme, as was participating in the clinical dilemma activity. Both

tasks involved active learning. The former task furnished a resilience profile (i.e. strengths and areas to work on) and therefore was highly salient and personalised, and sharing with their pair and the class revealed common themes, possibly contributing to connectedness. The clinical dilemma activity also was highly salient, and when all dilemmas were shared with the class, meaningful connections and helpful contributions towards resolution of the dilemma were apparent. Two other gratifying and strong themes that emerged were around sharing with peers, with six students reporting high value in this (*sharing ratings with peers as a way of connecting with others and building social support*) and other students valuing the safe environment that was constructed (*open environment*; *if you did want to share you didn't have to*).

In sum, the *Bouncing Forward* workshop evaluation, to date, and the positive student engagement in the workshops support the value of this type of post-practicum debriefing workshop and the notion of presenting the three constructs of professional identity, self-efficacy, and resilience as a package, with links between the three constructs. Different students had different profiles and knowledge in each of these areas, and the workshop was able to cater for this and provided an individualised learning experience. Some students discernibly underwent some transformational learning, and the overall value of the workshop was high. However, to further understand and develop appropriate interventions for students in these areas, including the identification of pressure points, further inquiry is required.

## 10.9 Trends in Professional Identity, Self-Efficacy, and Resilience

As stated, there is no current evidence in the literature regarding the development of speech pathology students' professional identity, self-efficacy, or resilience. As put forward, we believe that these three constructs are interconnected and important to student success in study, the workplace, and in broader life experiences. Therefore, alongside the development and implementation of the *Bouncing Forward* post-practicum debriefing workshop, and pre-dating this, data addressing the three constructs was collected at different time points. These data acted to inform the development of the workshop, provided the speech pathology staff with important insights, and adds to the body of evidence on these topics. Three questionnaires (mentioned earlier) were implemented to investigate the constructs, and this information is now presented:

1. *Professional Identity in Speech Pathology Questionnaire*. This questionnaire consisted of six items on student identity and the programme of study (rated on a 0–10 scale) (adapted from du Toit et al., 2011) and ten items relating to the profession of speech pathology (rated on a 1–6 scale) (Adams et al., 2006). A single cohort of students completed this questionnaire on three occasions – at the end of their Year 1 Orientation week, at the end of their Year 1 first trimester of study, and 1 year later at the end of their Year 2 second trimester of study (embed-

ded onto the *Bouncing Forward* workshop). Thus, it was possible to plot, over time, their professional identity and identify whether changes occurred during the course of their study.

2. *General Self-Efficacy Scale* (Schwarzer & Jerusalem, 1995). Students rated themselves (1 = *not at all true* to 4 = *exactly true*) on each of the 18 items at the start of their Year 2 12-week practicum and then again at the post-practicum debriefing workshop. It was therefore possible to determine whether self-efficacy changed over the duration of this trimester.
3. *Personal Resilience Questionnaire.* The 42-item *Personal Resilience Questionnaire* (Organizational Development Resource, 1996) was completed before the 12-week practicum at the post-practicum workshop. Mean scores for each of the six domains were calculated and compared to determine any differences.

### *10.9.1 Professional Identity*

In this small group of Master of Speech Pathology students, professional identity changed over an 18-month period, as demonstrated in Figs. 10.1 and 10.2. Students reported feeling like a speech pathology student and having strong ties with other students much more so at 18 months into their programme of study compared to Orientation week. This is not surprising as students are undergoing an enculturation into the speech pathology profession through the developmental trajectory of their academic and practicum experiences; thus, the programme appears to support aspects related to the forming of professional identity. In support, trends were also observed with respect to a decrease in connectedness to the students' former identity, and this occurred quickly within a trimester (Fig. 10.1). Students identified with the speech pathology profession from the outset of their study. Perhaps the initial perceptions of identity at the end of Orientation week, although real, were driven by the lack of knowledge and experience, and the premise that pre-novice students "do not know what they do not know" about the profession (Kruger & Dunning, 1999). However, by the end of their first trimester, students had a more informed, conscious view, along with a realisation that speech pathology is more than what they thought and the knowledge of how much more there is to learn. This line of thinking may explain a decline in perceived professional connectedness despite having greater actual competencies and capabilities than in Orientation week. One year later, as experience and knowledge have grown, this has translated to a generalised positive increase in professional connectedness (Fig. 10.2).

Students aspired to be professional and knowledgeable and empathetic speech pathologists who are patient, are personable, and are exceptional communicators. These were the most frequently reported themes that emerged when students described the qualities and attributes of a practising speech pathologist, having completed three out of four trimesters of study (i.e. end of Year 2, Trimester 1). The themes related to all of the qualities and attributes described are detailed in

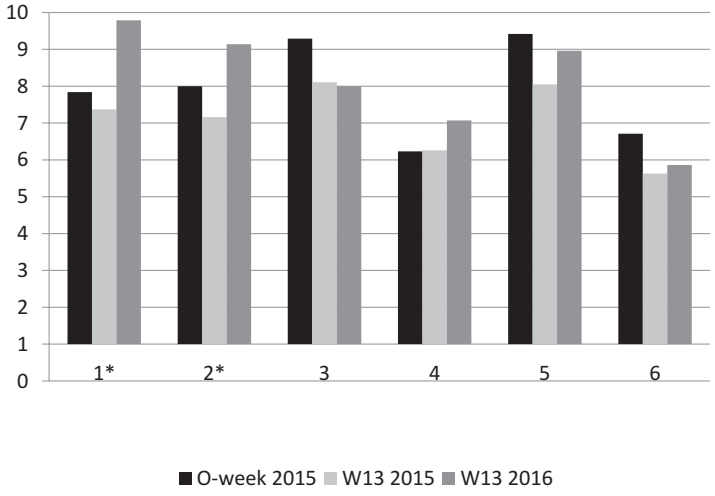


**Fig. 10.1** Development of professional identity in student and programme domains across 18 months
1. To what extent do you feel like a speech pathology student?
2. To what extent do you feel strong ties with other speech pathology students?
3. To what extent do you feel pleased to be a speech pathology student?
4. How similar do you think you are to the average Master of Speech Pathology student?
5. How important is it that you are a speech pathology student?
6. How strongly connected do you feel to your most recent professional or student identity?

Table 10.4. These attributes have comprehensive coverage across the key cognitive, affective, emotional, personal, interpersonal, professional, theoretical, and task-based domains of the speech pathology profession and demonstrate that the Master of Speech Pathology programme is appropriately developing students well in terms of speech pathology values and beliefs. Interesting, resilience was only espoused once, although being adaptive and flexible ranked quite high. Problem-solving and reasoning, which relate to self-efficacy, also were low. Therefore, inspection of data related to these two areas indicated a need for these constructs to be more explicitly embedded into the current curriculum and justified the *Bouncing Forward* post-practicum workshop as one strategy. These results further indicated, that is, a need for data on self-efficacy and resilience.

### *10.9.2 Self-Efficacy*

The concept of self-efficacy has not been specifically targeted in the Master of Speech Pathology programme, although students come across this construct within the curriculum. As previously stated, the General Self-Efficacy Scale (Schwarzer &

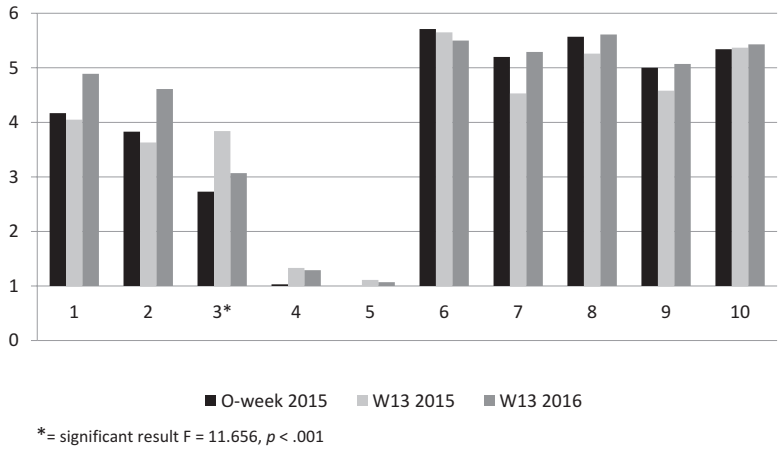


**Fig. 10.2** Development of professional identity in professional domains across 18 months
1. I feel like I am a member of the speech pathology profession
2. I feel I have strong ties with the speech pathology profession
3. I question my resourcefulness in undertaking the demands of the speech pathology programme
4. I find myself making excuses for belonging to the speech pathology programme
5. I try to hide that I am studying to be part of the speech pathology profession
6. I am pleased to belong to the speech pathology profession
7. I can identify positively with members of the speech pathology profession
8. Being a member of the speech pathology profession is important to me
9. I feel I share characteristics with other members of the speech pathology profession
10. I believe that I am capable of becoming an excellent speech pathologist

Jerusalem, 1995) was employed, and Table 10.5 presents all questions. Table 10.6 presents the mean results and standard deviations for two curricular time points (i.e. the start and end of students' third trimester). For unshaded questions, higher scores equate to positive self-efficacy equates to higher score. The five shaded questions have a negative bias, meaning that a low score equates to positive self-efficacy.

Overall, at the start of Year 2, self-efficacy was higher than moderate (i.e. greater than 3 on a 4-point scale) and trended towards increasing over the trimester. The data indicated that the programme was challenging, particularly the academic component. However, students reported relatively high levels of coping and taking responsibility for their learning. They appreciated the value of persistence and problem-solving. They also felt moderately supported in their academic studies. The one question that showed significant change over the 13-week period was Question 3 – *If someone opposes me in the classroom or clinic, I can find means and ways to get what I want*. At the commencement of the trimester, students were on average equivocal. However by the end of the trimester, in the post-practicum workshop, students reported that their sense of control had increased to on average answering this question as being moderately true. During this trimester of study, the problem-based learning tutorials actively addressed conflict resolution in teams and during practicum. This may have contributed to increased self-efficacy in this important area.

**Table 10.4** Ranking of professional attributes that Year 2 Master of Speech Pathology students perceive as exemplifying a speech pathologist

| | |
|---|---|
| 1. Empathetic, sympathetic, compassionate, genuine | **18** |
| 2. Professional, confident, competent, capable, hard working | **17** |
| 3. Knowledgeable, intelligent | **16** |
| 4. Good communicator, good listener, friendly, personable, approachable | **15** |
| 5. Patient, caring, warm | **15** |
| 6. Organised, good time managers | **11** |
| 7. Adaptive, resourceful, flexible, creative | **11** |
| 8. Holistic/quality of life, client-centred | **11** |
| 9. Perfectionistic | **5** |
| 10. Lifelong learner | **2** |
| 11. Enthusiastic, passionate | **2** |
| 12. Good at problem-solving/reasoning | **2** |
| 13. Multitasks | **1** |
| 14. Resilient | **1** |
| 15. Realistic | **1** |
| 16. Proactive | **1** |
| 17. Efficient | **1** |
| 18. Committed | **1** |

**Table 10.5** Questions from the General Self-Efficacy Scale

| | |
|---|---|
| 1 | I can always manage to solve difficult academic and/or clinical problems if I try hard enough |
| 2 | I frequently feel overwhelmed by my studies |
| 3 | If someone opposes me in the classroom or clinic, I can find means and ways to get what I want |
| 4 | It is easy for me to stick to my aims and accomplish my educational goals |
| 5 | I constantly rely on others to support my clinical development |
| 6 | I am confident that I can deal efficiently with unexpected academic or clinical events |
| 7 | Coping with the academic demands of this programme is difficult |
| 8 | Thanks to my resourcefulness, I know how to handle unforeseen academic situations |
| 9 | I feel well supported in my academic studies |
| 10 | I am easily distracted from my studies |
| 11 | I can solve most academic problems if I invest the necessary effort |
| 12 | I can remain calm when facing academic difficulties because I can rely on my coping abilities |
| 13 | The clinical situation is daunting for me |
| 14 | When I am confronted with an academic problem, I can usually find several solutions |
| 15 | If I am in academic and/or clinical trouble, I can usually think of something to do |
| 16 | Some aspects of this programme are easier than I expected |
| 17 | I find the clinical demands to be more stressful than the academic demands |
| 18 | No matter what comes my way academically or clinically, I'm usually able to handle it |

**Table 10.6** Mean results on the General Self-Efficacy Scale in Week 1 and Week 13, 2016

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Week 1 | 3.28 | 3.31 | 2.48 | 3.19 | 2.25 | 2.94 | 3.47 | 3.13 | 2.97 | 2.25 | 3.44 | 3.03 | 2.38 | 3.00 | 3.31 | 2.59 | 2.41 | 3.25 |
| | *0.50* | *0.94* | *0.42* | *0.57* | *0.80* | *0.56* | *0.68* | *0.47* | *0.60* | *0.70* | *0.50* | *0.62* | *0.82* | *0.47* | *0.49* | *0.85* | *0.72* | *0.50* |
| Week 13 | 3.46 | 2.89 | 3.04 | 3.25 | 2.07 | 3.11 | 3.57 | 3.18 | 3.00 | 2.07 | 3.50 | 3.11 | 2.11 | 3.18 | 3.39 | 2.32 | 2.11 | 3.32 |
| | *0.52* | *0.83* | *0.38* | *0.52* | *0.72* | *0.53* | *0.72* | *0.42* | *0.63* | *0.64* | *0.48* | *0.53* | *0.83* | *0.38* | *0.52* | *0.81* | *0.62* | *0.38* |

**Table 10.7** Year 2, Week 1 summary of resilience scores across domains, ranked from highest to lowest

| Domain | Total | Mean |
|---|---|---|
| Sense of purpose | 28.29 | 4.04 |
| Connect with others | 26.89 | 3.84 |
| Determination | 26.83 | 3.83 |
| Looking after yourself | 25.47 | 3.64 |
| Taking control | 25.26 | 3.61 |
| Positive mental attitude | 23.46 | 3.35 |

### *10.9.3 Resilience*

As per self-efficacy, building resilience had not been specifically addressed in the Master of Speech Pathology curriculum. General coping strategies were discussed in all clinical education workshops, but framing this through a resilience lens had not occurred until the *Bouncing Forward* post-practicum workshop. The *Personal Resilience Questionnaire* is a 42-item questionnaire with each item being evaluated on a 5-point scale, 5 = *strongly agree*, 3 = *neutral*, and 1 = *strongly disagree*. The total scores for each of the six domains and means are provided in Table 10.7.

These resilience data in Master of Speech Pathology students were collected in Year 2, Week 1, Trimester 1 in 2016 prior to the first *Bouncing Forward* workshop which occurred at the end of this trimester. Students had a good sense of purpose, which aligns well with the professional identity data. Students on average were equivocal with respect to the domain, positive mental attitude (e.g. controlling negative thoughts), which also is in agreement with the self-efficacy data. Given that many of students are studying away from home and may attend their final clinical practicum in rural and remote areas, an average score of 3.64 on *looking after yourself* suggests this as a future area to target. It is worth noting that five of the six domains scored between 3 and 4, which corresponds to equivocal. This data justifies the need for a workshop with resilience as a focus topic and highlights areas to target.

Having reviewed the preliminary data on Master of Speech Pathology students' professional identity, self-efficacy, and resilience, some clear relationships amongst the data exist, supporting our argument that these three constructs are intertwined, and further it is clear that all three areas need direct attention in the curriculum.

## 10.10 What Has Been Learnt and Where to from Here?

Work-integrated learning is vital for producing work-ready graduates. In acknowledgement of this has been the Australian government's *National Strategy on Work Integrated Learning in University Education* (Network, 2015). Hence, ensuring students have the best quality experiences in and around their practica has been spotlighted. As discussed, the workplace is fast-paced, dynamic, and sometimes

confronting for students. Therefore, post-practicum debriefing is essential to assist students to make sense of their experiences and equip them with strategies for the next practicum experience or the workplace itself.

To this end, the *Bouncing Forward* post-practicum debriefing workshop addressed three important capabilities which we argue are interconnected and central to workplace success. Our initial results from the data showed connections amongst these three constructs in our Master of Speech Pathology students, thus supporting our position, as well as a need for focussed activities in these three areas. In summarising our findings, professional identity was quite strong from the outset, but increased from the commencement of speech pathology studies. Furthermore, following three trimesters of students articulated attributes, values, and behaviours that are coherent and consistent with those of the profession although, until now, have never been collected through research. Together, these data are reassuring as it has been argued that having a strong professional identity may aid one's ability to handle the workplace.

Self-efficacy was demonstrated to be dynamic, increasing in one domain over the short term (13 weeks). It was moderate in magnitude. As stated, a strong sense of efficacy enhances individual performance and a sense of well-being (Bandura 1994). Nursing research indicates that self-efficacy can be a predictor of performance, with higher levels of self-efficacy associated with higher performance and job satisfaction (Caruso, Pittella, Zaghini, Fida, & Sili, 2016). Therefore, building self-efficacy may increase students' ability to deal with difficult clinical situations in a considered and constructive manner. In light of our results and findings in the nursing and medical literature showing that self-efficacy can be enhanced through targeted learning and feedback (e.g. Ammentorp, Sabroe, Kofoed, & Mainz, 2007), addressing this area may benefit our speech pathology students.

Resilience was equivocal in this cohort of students, except for their sense of purpose which was high. This suggests that students may find it difficult to respond to challenges associated with academic study, including those which occur during practica. Building resilience in students is a goal of all academic programmes; however making this explicit may assist this process. Specifically, the two domains which require the most attention (Table 10.5), based on our results, include *positive mental attitude* (especially around controlling negative thoughts) and (2) *looking after yourself*.

The *Bouncing Forward* workshop was a starting point for exploring and facilitating speech pathology students' knowledge and viewpoints about professional identity, self-efficacy, and resilience as it applies to practicum experiences and to augment their practicum experiences. The workshop was easy to implement and was transferrable to other professions (i.e. nutrition and dietetics students; paramedic students) and degree level (bachelor vs. master) with minimal changes. This flexibility and transferability was intentional, and the programme appears to be highly sustainable. The proviso still stands, however, that students must have had prior practicum experience to participate in this workshop. The workshop was well-received, and formal evaluation revealed that its value to students was high and new knowledge and insights were gained. However, it appears that our speech pathology

students need to be further educated about the importance of developing these three constructs and evidence needs to be collected to determine application of knowledge, i.e. whether the workshop has changed any behaviours.

For the future, the *Bouncing Forward* workshop will continue to be conducted in the Master of Speech Pathology programme at the start of Year 2, as well as in the Bachelor of Nutrition and Dietetics programme at the end of Year 3, to augment practicum experiences with contextualised and important debriefing that targets three interconnected constructs to assist students in making sense of what "has" happened in their practica to inform what "can" happen in future practica. In speech pathology, a systematic approach to collecting data has been implemented at the beginning of each trimester to continue to track the development of these three constructs. Moreover, evaluating the impact of the workshop on student performance and capabilities will be part of a continuing iterative process that commenced in 2017. Interestingly, some common themes have emerged from the workshop activity related to clinical dilemmas (e.g. difficult supervisors; difficult families of patients; adverse patient events), so these will be collected and collated more judiciously in the future. Knowing more about the potential pressure points in clinical practica means that additional strategies can be incorporated into the curriculum to address these and potentially could form the basis for further augmentation of students' post-practicum learning. Hence, the developmental and iterative process will continue around the area of post-practicum interventions in the Master of Speech Pathology programme, and, in particular, the hidden curriculum around the development of professional identity, self-efficacy, and resilience in students will be hidden no more.

## References

Adams, K., Hean, S., Sturgis, P., & Clark, J. (2006). Investigating the factors influencing professional identify of first-year health and social care students. *Learning and Health Social Care, 5*(2), 55–68.

Alsubaie, M, A. (2015). Hidden curriculum as one of current issue of curriculum. Journal of Education and Practice*,* 6(33), 25–128.

Ammentorp, J., Sabroe, S., Kofoed, P. E., & Mainz, J. (2007). The effect of training in communication skills on medical doctors' and nurses' self-efficacy. *Patient Education and Counseling, 66*(3), 270–277.

Bandura, A. (1994). Self-efficacy. In Ramachaudran, V. S. (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71–81). New York: Academic Press. (Reprinted in H. Friedman [Ed.], *Encyclopedia of Mental Health*. San Diego: Academic Press, 1998).

Blood, G. W., Thomas, E. A., Ridenour, J. S., Qualls, C. D., & Hammer, C. S. (2002). Job stress in speech-language pathologists working in rural, suburban, and urban schools: Social support and frequency of interactions. *Clinical Issues in Communication Sciences and Disorders, 29*, 132–140.

Caruso, R., Pittella, F., Zaghini, F., Fida, R., & Sili, A. (2016). Development and validation of the nursing profession Self-Efficacy Scale. *International Nursing Review, 63*(3), 455–464.

Cassidy, S. (2015). Resilience building in students: the role of academic self-efficacy. *Frontiers in Psychology, 6*.

Caza, B. B., & Creary, S. J. (2016). The construction of professional identity. In A. Wilkinson, D. Hislop, & C. Coupland (Eds.), *Perspectives on contemporary professional work: Challenges and experiences* (pp. 259–285). Cheltenham: Edward Elgar Publishing.

Cowin, L. S., Johnson, M., Wilson, I., & Borgese, K. (2013). The psychometric properties of five professional identity measures in a sample of nursing. *Nurse Education Today, 33*, 608–613. https://doi.org/10.1016/j.nedt.2012.07.00812

Cross, K. P. (1999). *Learning is about making connections. The cross papers number 3*. Mission Viejo: League for Innovation in the Community College and Educational Testing Service.

Du Toit, V., Bialocerkowski, A., Weaver, R., Bye, R., & Salmanson, Y. (2011). A comparison of social attitudes, professional and institutional identities and acculturative stress between podiatry and other health professional students. *Journal of the Foot and Ankle Research, 4*(Supp1), 16.

Ferns, S. (2014). *Work integrated learning in the curriculum*. Higher Education Research and Development Society of Australasia.

Ferri, P., Guerra, E., Marcheselli, L., Cunico, L., & Di Lorenzo, R. (2015). Empathy and burnout: An analytical cross sectional study among nurses and nursing students. *Acta Biomed for Health Professions, 86*(S2), 104–115.

Garcia-Dia, M. J., DiNapoli, J. M., Garcia-Ona, L., Jakubowski, R., & O'Flaherty, D. (2013). Concept analysis: Resilience. *Archives of Psychiatric Nursing, 27*, 264–270.

Garman, K. A., Wingard, D. L., & Reznik, V. (2001). Development of junior faculty's self-efficacy: Outcomes of a national centre of leadership in academic medicine. *Academic Medicine, 76*(10), S74–S76.

Gibbs, G. (1988). *Learning by doing: A guide to teaching and learning methods*. Oxford: Oxford Education Unit.

Gu, Q., & Day, C. (2007). Teachers' resilience: A necessary condition for effectiveness. *Teaching and Teacher Education, 23*(8), 1302–1316.

Hamill, S. K. (2003). Resilience and self-efficacy: The importance of efficacy beliefs and coping mechanisms in resilient adolescents. *Colgate University Journal of Science, 35*, 115–146.

Hart, P. L., Brannan, J. D., & De Chesnay, M. (2014). Resilience in nurses: An integrative review. *Journal of Nursing Management, 22*(6), 720–734.

Humphries, N., Morgan, K., Conroy, M. C., McGowan, Y., & Montgomery, A. (2014). Quality of care and health professional burnout: narrative review. *International Journal of Health Care Quality Assurance, 27*(4), 293–307.

Ibarra, H. (1999). Provisional selves: Experimenting with image and identity in professional adaptation. *Administrative Science Quarterly, 44*(4), 764–791.

Jackson, D., Firtko, A., & Edenborough, M. (2007). Personal resilience as a strategy for surviving and thriving in the face of workplace adversity: A literature review. *Journal of Advanced Nursing, 60*(1), 1–9.

Karge, B. D., Phillips, K. M., Jessee, T., & McCabe, M. (2011). Effective strategies for engaging adult learners. *Journal of College Teaching and Learning, 8*(2), 53–56.

Kelly, G. (1955). *Personal construct psychology*. New York: Norton.

Kirkpatrick, D. (1996). Great ideas revisited. *Training & Development, 50*(1), 54–60.

Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.

Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology., 77*(6), 1121–1134.

Lingard, L., Reznick, R., DeVito, I., & Espin, S. (2002). Forming professional identifies in health care the team: Discursive construction of the 'other' in the operating room. *Medical Education, 36*(8), 728–734.

Luszczynska, A., Scholz, U., & Schwarzer, R. (2005). The general self-efficacy scale: Multicultural validation studies. *The Journal of Psychology, 139*(5), 439–457.

Major, C. H., & Palmer, B. (2001). Assessing the effectiveness of problem-based learning in higher education: Lessons from the literature. *Academic Exchange Quarterly, 5*(1), 4–9.

McAllister, M., & McKinnon, J. (2009). The importance of teaching and learning resilience in the health disciplines: A critical review of the literature. *Nurse Education Today, 29*(4), 371–379.

McAllister, S., Lincoln, M., Ferguson, A., & McAllister, L. (2013). *COMPASS®: Competency assessment in speech pathology assessment resource manual* (2nd ed.). Melbourne: Speech Pathology Australia.

McCann, C. M., Beddoe, E., McCormick, K., Huggard, P., Kedge, S., Adamson, C., et al. (2013). Resilience in the health professions: A review of recent literature. *International Journal of Wellbeing, 3*(1), 60–81.

Miller, M. M., & Potter, R. E. (1982). Professional burn out amount speech-language pathologists. *American Speech-Language Hearing Association, 23*(3), 177–181.

Network, A. C. E. (2015). *National strategy on work integrated learning in university education*. Retrieved, 28, 02-16.

Organizational Development Resource [now Connor Partners]. (1996). *Criterion-related validity of the personal resilience questionnaire*. (Available from Conner Partners, 1230 Peachtree St., Suite 1000, Atlanta, GA 30309).

Pratt, M. G. (2012). Rethinking identity construction processes in organizations: Three questions to consider. In M. Schultz, S. Maguire, A. Langley, & H. Tsoukas (Eds.), *Perspectives on process organization studies: Constructing identity in and around organizations* (pp. 21–49). London: Oxford University Press.

Rees, C. S., Bree, L. J., Cusack, L., & Hegney, D. (2015). Understanding individual resilience in the workplace: the international collaboration of workforce resilience model. *Frontiers in Psychology, 6*(73), 1–7.

Rutter, M. (1985). Resilience in the face of adversity. Protective factors and resistance to psychiatric disorder. *The British Journal of Psychiatry, 147*(6), 598–611.

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Aldershot, UK: Arena.

Schwarzer, R., & Jerusalem, M. (1995). Generalized self-efficacy scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35–37). Windsor, UK: NFERNELSON.

Stallman, H. M. (2010). Psychological distress in university students: A comparison with general population data. *Australian Psychologist, 45*, 249–257.

Swideler, M., & Ross, E. (1993). Burnout: A smouldering problem amongst South African speech-language pathologists and audiologists. *The South African Journal of Communication Disorders, 40*, 71–84.

Thomas, L. J., & Revell, S. H. (2016). Resilience in nursing students: An integrative review. *Nurse Education Today, 36*, 457–462.

Webster-Wright, A. (2009). Reframing professional development through understanding authentic professional learning. *Review of Educational Research, 72*(2), 702–739.

Worthington, M., Salamonson, Y., Weaver, R., & Cleary, M. (2013). Predictive validity of the Macleod Clark professional identity scale for undergraduate nursing students. *Nurse Education Today, 33*, 187–191. https://doi.org/10.1016/j.nedt.2012.01.012

# Chapter 11
# Facilitating Students' Reflections on Community Practice: A New Approach


**Jennifer M. Newton and Ashleigh E. Butler**

## 11.1 Introduction

In Australia, the nurses' registration board requires that they be competent reflective practitioners upon graduation. Frequently, the development of this reflective capacity is incorporated as a component of student nurses' placement experiences. Yet, clinical practicums do not necessarily provide opportunities for students to develop their reflection skills (Nagle, 2009). In nursing, the complexity of the healthcare workplace can impede students' understanding of their practice (Newton, 2011) because they are novices and unfamiliar with the requirements of the environments in which they have been placed. Hence, students need opportunities to purposefully facilitate the development of these skills.

Graduate entry and final undergraduate students have claimed in earlier teaching/evaluation projects that because of the intensity of the work and learning tasks, they struggle to meet coursework assessments whilst undertaking placement experiences. It was proposed that making a brief video on completion of their community health practicum might be an effective way to engage in learning to be critical about their work and learning. It offers students a more 'active learning' environment (Croxton, 2014) than when submitting a written reflection, as active engaged learning promotes student learning and satisfaction. Given many contemporary students are 'techno-savvy', creating a video also offers a platform for online interactivity amongst students and potentially enhances their engagement (Croxton,

J. M. Newton (✉)
Monash University, Melbourne, Australia

McMaster University, Hamilton, Canada
e-mail: jenny.newton@monash.edu

A. E. Butler
University College London, Great Ormond Street Institute of Child Health, London, UK



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_11

2014; Sandars & Murray, 2009). Certainly, in school teacher education, video has been used extensively to capture the complexities of learning to assist teacher education students' development and notice what is occurring in the classroom (Tripp & Rich, 2012). An essential goal for using videos has been to assist teacher students to develop their critical reflective skills. Critical reflection is held to move beyond the mere description of an experience and entails a deeper level of reflection that results in evidence of a degree of learning or change in perspective (Moon, 2006). Indeed, research has shown that critical reflectivity is essential in promoting transformative learning because it challenges previously held assumptions and assists in future decision-making (Newton, 2011; Taylor, 2007).

The central rationale for the case presented in this chapter illustrates that for both the graduate entry and undergraduate nursing students, there was no post-practicum follow-up to establish or share what they learnt through their community health placement experiences. Community health is one aspect of nursing that is taught in nursing programmes where the focus is on primary healthcare, that is, preventive health and long- term management of chronic health conditions. The intent of community health is to provide supportive care to the client or patient outside of an acute care hospital setting. In the programmes offered at the time that this study was undertaken, the graduate students only spent 1 week on a community health placement and the third-year undergraduate students 2 weeks. However, previous research has clearly identified that student nurses spend their first week assimilating into a new clinical setting. It is only in subsequent weeks that they are able to focus on their learning needs. In regard to community health placements, the facilities the students attend vary in what they offer in terms of opportunities and engagement. Placements might entail going out with a district nurse (i.e. a registered nurse who undertakes visits to people's homes to give medications or attend to dressing a wound) to being placed in a palliative care service (i.e. a community-based team of nurses offering care to individuals who are terminally ill, in their homes) or on a renal dialysis unit (i.e. a day unit attached to a healthcare organisation where patients undergo renal dialysis for kidney disease). Hence, students' community health experience can be quite unique as they might be the only student on placement in a particular community setting.

Drawing upon the methodological approach of case study (Yin, 2014), this chapter discusses the challenges of engaging nursing students in a novel approach to enhance their critical reflectivity on community health placements. The case focuses on 'how' student nurses engage with and create reflective videos. An analysis of the student videos will be presented along with an examination on the benefits and limitations of video as a pedagogical approach for facilitating post-practicum critical reflection. Preceding the case study, an overview of reflective practice in nursing and the use of video as an educational approach to facilitate reflectivity is provided. Overall, it is proposed student-created videos will enhance students' post-practicum learning experiences and reflectivity of their learning.

## 11.2 Reflective Practice in Nursing

Reflection and reflective practice are essential components of nursing practice. Through reflection nurses make meaning of their experiences and connect theoretical concepts with everyday practice (Miraglia & Asselin, 2015). A detailed discussion of the concepts of reflection and reflective practice is beyond the scope of this chapter. However, a brief overview is necessary to frame the study upon which the chapter is based. Historically, the term reflection has taken on a wide range of definitions. Early scholars focused largely on reflection as a deliberate cognitive analysis of knowledge and experiences, to arrive at a deeper understanding (Mann, Gordon, & MacLeod, 2007). So in this way, it was about deepening understanding. Initially, reflection was viewed as an 'active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion to which it tends'(Dewey, 1933, p. 9). This definition was later refined to an intellectual and affective activity used to explore experiences to form new appreciations and understandings (Boud, Keogh & Walker, 1985). Moon (2004) extended this to focus on reflection as a form of intellectual work whose purpose is to help make sense of complex ideas for which there is no immediately obvious answer. Noteworthy is that these definitions refer only to ideational knowledge (concepts and values). What they fail to address is a focus on the important procedural knowledge that assists individuals achieve goals. This concern, in some ways, is supported by the work of Schön.

Reflection into professional practice began in earnest with Schön's (1983) seminal work on the reflective practitioner. Such practitioners were posited to use reflection as a tool to explore and learn from experiences and to work through complex professional problems which arose in everyday practice (Mann et al., 2007; Schön, 1983). Reflection on experience and professional practice enables practitioners to identify learning needs, whilst reflection on personal beliefs and attitudes allows their integration into the professional culture (Mann et al., 2007). It is the combination of these elements that makes reflective practice so powerful. The process of reflection enables continuous professional growth and improved clinical practice amongst those who use it, through the distinct form of divergent thinking that is undertaken. This can lead to new understandings about self and the situated practice (Sadlon, 2018).

For these reasons, the development and utilisation of reflective practice have become increasingly important within the discipline of nursing. The need for nurses to engage in reflection and reflective practice forms a core part of the nursing registration standards worldwide (American Nursing Association (ANA), 2010; *Nursing and Midwifery Board of Australia (NMBA*), 2016; Nursing and Midwifery Council (NMC), 2015; Nursing Council of New Zealand, 2012). In fact, reflective practice is considered so crucial to nursing practice in Australia; it falls within the first listed practice standard for registered nurses. Nurses are expected to 'develop practice through reflection on experience, knowledge, action, feelings and beliefs' (NMBA, 2016, p. 3). Nurses are called upon to learn from their own practice by critically

reflecting on their actions, behaviours, knowledge base, thoughts, and feelings (Atkins & Schutz, 2013). However, to ensure nurses meet these requirements for occupational registration upon graduation, the concept of reflective practice must be embedded into the pre-registration nursing curriculum. Despite the requirement for newly graduated nurses to be reflective practitioners to receive their registration, emphasis on reflection at the undergraduate university level is inconsistent. Whilst the tertiary education sector values reflection for its ability to foster critical thinking, enhance student insight, and promote deeper learning, limited guidance is available for educators on how to foster this type of reflection in their students (Epp, 2008; Mann et al., 2007).

Yet, instead of being incorporated seamlessly into the nursing curricula, reflection is often poorly integrated into a small selection of subjects (Sandars, 2009). Such educational processes do not demonstrate value and worth of reflective practice, with students sometimes being reluctant to engage in what they come to consider an unnecessary element of nursing (Mann et al., 2007; Sandars, 2009). Through such processes, students may come to view reflection as a 'bolt on' to their nursing education, a task completed just for the purposes of checking off an assignment requirement rather than for the benefits it may afford both their learning and clinical practice (Sandars, 2009). In addition, educators are frequently unsure of how to 'sell' reflection to students and fail to impart the value and purpose of reflective assignments. Indeed, Boud (2010) asserts one should not overlook the original focus of reflection which is about constructing personal knowledge. Hence, poor integration and understanding of reflection into undergraduate curriculum can hinder students' ability to develop reflective skills.

Most reflective activities in healthcare provider education take the form of reflective journaling or reflective portfolios (Epp, 2008; Hannigan, 2001; Mann et al., 2007). These activities require students to explore clinical or learning experiences through writing about what occurred, often with the assistance of a reflective framework or guidelines (Gibbs, 1988; Johns, 2009; Taylor, 2010). However, there are emerging concerns whether written journals are the most appropriate or effective way to develop students' reflective abilities. Some undergraduate students experience challenges with written reflection (Epp, 2008) with others unsure of the value of engaging in formal or required reflective journaling (Smith & Jack, 2005). In addition, there is some suggestion that the current generation of students, for whom technology is an ingrained element of daily life, may not actually find meaning and value in written tasks (Sandars & Homer, 2008; Sandars & Murray, 2009). Many of these students adopt a more kinaesthetic and interpersonal learning style, leading them to prefer activities that are creative using multimedia such as audio and video (Sandars & Homer, 2008; Sandars & Murray, 2009). Improving engagement in reflection with these students requires more innovative and creative strategies involving the use of digital media, and resources such as weblogs, podcasts, and video storytelling are required (Coulson & Harvey, 2013; Sandars, 2009; Sandars & Homer, 2008).

## 11.3 Enhancing Reflection Through Video

Video is emerging as a novel way to enhance the development of student reflection across a vast range of disciplines, including both education and healthcare. The range of applications of video to enhance student reflection is vast and includes video-supported reflection on action or clinical skill, the use of digital stories, and the use of vlogs (video blogs). Though each of these activities varies slightly in design, they generally share a common purpose: to enhance students' clinical skills through reflection on actions; to increase understanding of actions, behaviours, and experiences (i.e. to enhance self-awareness); and to improve students' theoretical knowledge and decision-making (Coffey, 2014). Given the need to reflect on something, an optimum time is once students have completed their practicums.

Utilising video to enhance student reflection on their clinical or technical practice is a common tool in both undergraduate nursing and teaching courses. Student practice in a real or simulated scenario is filmed, and students view their videotaped practice as a means of enhancing reflection. In teacher education, this practice is common. A literature review identified no fewer than 63 studies which explored the impact of video on teacher reflection (Tripp & Rich, 2012). The review found that teachers (both pre- and in-service) undertook a variety of reflective tasks when viewing their videos, ranging from utilising checklists (which promotes a low level of skill) to engaging in interviews, and appreciated having guidance from a reflective tool during the process (Tripp & Rich, 2012). Using the videos to support student reflection on their teaching sessions (technical practice) was shown to provide a new perspective on their teaching. It helps them recognise new aspects of practice, improve the focus of their reflections, and lead to changes in the students' clinical practice, particularly if coupled with group discussion and reflection (Tripp & Rich, 2012).

In undergraduate nurse education, video-assisted reflection is just emerging. Most commonly, video-assisted reflection is utilised in debriefing sessions after student experiences in nursing simulation sessions. Al Sabei and Lasater (2016) identified three key defining attributes of debriefing as 'meaningful time for reflection, student centredness and a link between theory and practice' (p. 44). Debriefing is a structured process of facilitated reflection on a clinical or simulated scenario, enabling students to explore their cognitive, affective, and psychomotor skills in order to identify strengths and weaknesses, link theory to practice, and enhance their future performance (Al Sabei & Lasater, 2016; Cant & Cooper, 2011). Recent studies utilising videos of student performance in debriefing have demonstrated similar benefits to those previously identified in teachers. For undergraduate nurses, video-assisted reflective debriefing leads to improvements in the students' clinical skills over time as it enables identification of gaps in practice and connection of theory to practice (Bowden, Rowlands, Buckwell, & Abbott, 2012; Mills et al., 2014; Reed, Andrews, & Ravert, 2013; Yoo, Son, Kim, & Park, 2009). Besides improving clinical skills, general improvements in students' reflective skills are also developed when video is used. Video-assisted debriefing helps to enhance student self-awareness of both positive and negative behaviours and enhances student reflection and

insight into their actions and their learning (Bowden et al., 2012; Yoo et al., 2009) as well as improving the overall quality and quantity of student reflection (Royle & Hargiss, 2015). Hence as illustrated, the use of video to enhance student reflection on their technical and/or practical skills has been successfully utilised in promoting learning in both undergraduate teachers and nurses (Bowden et al., 2012; Cemusca, Thompson, & Riggins, 2017). However, facilitating student learning and reflection through a narrative approach such as storytelling is still quite novel.

## 11.4 Digital Storytelling

Though relatively new to healthcare student education, digital storytelling also provides a means of enhancing student reflection and reflective skill development. Digital storytelling involves the creation of multimedia stories to explore an issue or share an experience. Typically undertaken as a group activity, digital storytelling encompasses the use of photos, videos, animation, sound, text, music, and voice narrative (Price, Strodtman, Brough, Lonn, & Luo, 2015). The process of creating the digital story encourages reflection on behaviours, scenarios, values, or experiences and helps link theoretical concepts to personal experiences (Price et al., 2015). Students who engage in digital storytelling also develop increased insight into their experiences and enhanced depth of understanding of both the clinical context or environment and the patient as a person within the healthcare process (Price et al., 2015). Such reflection is promoted across two stages of the digital storytelling process: students engage in reflection as they choose appropriate photos, images, or dialogue to tell their story and then again reflect as they share their story with others and receive comments and feedback. Indeed, Price et al. (2015) suggest that much of the reflective or educational benefits of digital storytelling comes with sharing the video with a peer group. This is because, through preparing and engaging with this form of media, it offers new insights and assists with students' application of content to practice facilitating their reflective learning by augmenting students' ability to notice things (Price et al., 2015; Sandars & Murray, 2009). Sharing experiences exposes learners to other ideas, worldviews, and perspectives. This enhances both their own and their peers' reflections, fostering a collaborative learning environment (Price et al., 2015).

Studies of healthcare students' reflections on the use of digital storytelling, though limited in number, are largely positive. Generally, students often appreciate the break from more traditional classroom assessments and enjoy the opportunity to do something different and be creative (Price et al., 2015; Sandars & Murray, 2009). Students value the opportunity that digital storytelling affords them to take time to reflect and remain connected to challenges and experiences, rather than just brushing issues under the carpet and moving on (Stacey & Hardy, 2011). In addition, students appreciate the more informal 'conversational' style of reflection that digital storytelling provides, noting the flexibility that comes with digital storytelling enables them to combine both personal experience and theoretical knowledge in

their reflections (Price et al., 2015). Importantly, digital storytelling as a pedagogical practice has been found to enhance student engagement in the process, stimulating 'deeper and more meaningful reflections' (Sandars & Murray, 2009, p. 443). However, as digital storytelling gathers pedagogical credence, there is a newer evolution of the use of video in facilitating student reflection, the video blogs, or vlog.

## 11.5 Video Blog (Vlog)

The purpose and construction of a vlog is similar to a digital story, though is undertaken as a solo activity rather than collaboratively. In addition, vlogs are undertaken as a multi-installation activity, similarly to traditional written blogs, where students create and upload multiple reflections over the course of a clinical experience or subject. At present, there is no evidence of vlogs or personal reflective video creation in undergraduate nursing education. There are, however, two studies of preservice teachers' use of vlogs across a semester, comparing their experiences of both vlogs and written reflections (Corbin Frazier & Eick, 2015; Kajder & Parkes, 2012). Both studies demonstrated some benefit to vlogging when compared to written reflection, from enhanced clinical awareness (Corbin Frazier & Eick, 2015) to an increased depth of reflection and a shift away from reflection on practical issues towards reflection on how and why learning and skill development occur (Kajder & Parkes, 2012). The participants reported appreciation for the freedom of expression and creativity that vlogging provides, allowing a 'stream of consciousness' to develop free of the constraints of grammatical structure inherent in written reflection (Corbin Frazier & Eick, 2015; Kajder & Parkes, 2012). In addition, student teachers in Kajder and Parkes (2012) study noted that engaging in vlogging allowed them to clearly see the development of their professional voice over time, aiding in the development of their professional identities.

It is clear from the previous discussions that video potentially has an important place in supporting and enhancing the development of undergraduate students' reflective skills. This is because combining video and reflection enables enhancement of self-reflection on learning (Bussard, 2016). We moved the concept of video reflection further and encompassed elements from each of the above methods to promote and enhance maximum student learning and reflection following extremely time-limited clinical placements for student nurses. Thus, this project sought to utilise individuals' video reflections to facilitate student post-practicum learning, through a web-based interface. It was anticipated that having students make a 60-second video on completion of their community health practicum would offer an engaging interaction and facilitate knowledge development. As a consequence, such an opportunity was provided for students.

## 11.6 Description of the Intervention

The project was undertaken in a School of Nursing and Midwifery and was initially planned with two phases: (i) analysis of written reflections in students' community health placement portfolios and (ii) creation of students' reflective video of their community health practicum. A third phase was added towards the end of the second phase to capture the students' experiences of creating their reflective videos. In 2013, Monash University launched their Better Teaching, Better Learning Agenda. Within this agenda, staff were encouraged to be more creative in their approaches to student learning. This importance for creativity partially stems from the explosion of new technologies with an emphasis on greater skill development alongside the willingness to challenge the learning journey provided to students. The current generation of students have grown up in a digital world and are interactive and media focused. Consequently, there are essential differences in the way that this generation of students learn. They are familiar with multimedia, being creative with audio and visual activities (Sandars & Murray, 2009). Hence, it is important appropriate pedagogical strategies are used by educators to promote incorporation of twenty-first-century skills into students' reflective activities (Baporikar, 2016). Therefore, it was considered self-reflective videos would appeal to students, providing an innovative way to capture and share their post-practicum learning experiences by enabling them to use their techno-savvy skills.

The first phase entailed gathering an understanding of Master of Nursing Practice (MNP) students' experiences of learning from their 1 week of community health placement experience written portfolios. At the time of this project, the MNP was a truncated graduate programme (18 months) though it has now been extended to a 2-year programme. Content analysis of a portfolio question 'Reflecting on your personal objectives for the week what is the key learning that you are taking away with you?' was undertaken to guide the development of the resources and formation of the reflective questions for Phase 2 of this case study. Previous research on developing students' critical reflection (Newton, 2011) found that students require a specific focus to assist with their reflections, because otherwise the reflection is quite descriptive. Moreover, learning to reflect is a cognitive and demanding skill.

The second phase of the study was the post-practicum intervention – a self-reflective video. Participating students were invited to make a 60 s video reflecting on their community placement experience and upload their video to a web-based interface (Moodle site). To enable ongoing student access, as opposed to creating 'a group' on the students' existing Moodle site aligned to their clinical subject (student access ceases on completion of the subject), a specific Moodle site was created: *Critical reflection in Community Practice*. A discussion forum was created on this Moodle site that enabled the students to upload their video clip, sharing their personal learning experiences of their community health placement. Students were provided with guidelines that directed them to remember their video was about their critical reflections, what did they learn? How might their video assist a peer in understanding something about the particular community health setting in which

they had undertaken their placements? Three reflective questions were placed on the Moodle site:

- *Reflecting on your personal objectives for your community placement, what is the key learning that you are taking away with you*?
- *How will this community experience influence your future practice?*
- *What would be the three critical moments of learning for you?*

The guidelines provided to assist the students in making their videos covered aspects such as de-identifying practitioners or clients' names and how to acknowledge an individual that supported their learning. Due to government privacy laws, this was important. Students could gain a client or practitioner's permission to be included in their video provided they had ensured a standard release form which had been signed by the individual concerned. Similarly, the students could use any creative art/images that encapsulated their learning experience, but in doing so they were made aware of ensuring copyright and giving correct attributes to the image (e.g. an image from I-stock). If students decided to provide background music or an excerpt of a song that captured their experience, they had to ensure that any music used had the composer/band's open access proviso. The university library had a list of music available. All necessary forms for the students were located in a folder on the Moodle site, Critical Reflection in Community Practice, along with relevant hyperlinks to the library. Students who participated in creating a video were also encouraged to review each other's video and utilise the discussion forum on the Moodle site to facilitate a dialogue about what they had learnt.

Following completion of the first videos, and seeing quite a variance across the students, we concluded it would enhance our understanding of this post-practicum learning experience to interview the participating students. Thus, this became the third phase of this case study. Interviews were conducted one-on-one at a time mutually convenient to the participant and were audio-recorded and transcribed verbatim. Having provided an overview of the intervention in this section before elaborating on the findings, it is important when utilising case study research to address the contextual conditions (Yin, 2014).

## 11.7 Contextualising the Intervention

On gaining ethical approval (CF16/2355-2,016,001,188) from the university's ethics committee, the project faced some challenges. The original intent had been to seek volunteer participants enrolled in the graduate entry Master's programme unit 'Contemporary Nursing Practice 3'. This clinical unit had been identified as problematic since inception of the Master's programme due to the limited community health placement experience of one week only. However, students undertaking this programme find the workload intense and feel constantly under pressure. Hence, there was considerable reticence in committing to participate. Phase 1 of the project entailed recruiting students who had completed the clinical unit during a summer

semester (December–February). Whilst well-supported by colleagues, namely, the course coordinator and unit coordinator, it required several presentations to the cohort along with reminder posts on the unit's Moodle site to recruit some volunteers. For Phase 2, the students were recruited during second semester offering (July–December) of this clinical unit. Again, there was difficulty in gaining participants. Indeed, presenting the project to this second semester cohort generated a barrage of questions. These centred on accessibility to the Moodle site, would the students have access to the site once they had completed their clinical unit, how professional/proficient did the videos need to be, and what was in it for them. In this particular clinical unit, the students' semester was structured with a preloading of teaching before undertaking two clinical placement experiences, one in a mental health setting and the other being the one week of community health placement. At the time of this project, on completion of their placements, the students returned to university for an examination of the unit prior to a one-week semester break before commencing their next semester.

As previously indicated, the MNP students were required to complete an assessed written clinical portfolio during their 1 week of community health practicum. The MNP students' reticence in volunteering to participate in this project largely stemmed from yet another 'task' to complete in an already overloaded semester. Survey data collected as part of the larger project and reported on in a preceding chapter (see Chap. 2 Cain et al.) identifies students have strong preferences with what they will engage with in post-practicum interventions. Nursing students prefer engaging in facilitated small groups (three to six students) with the primary focus of sharing stories and having the opportunity to 'speak and be heard' (Cain et al., 2019). Given this new-found challenge, the decision was made to broaden participation to invite final semester third-year students from the undergraduate Bachelor of Nursing enrolled in the clinical unit 'Chronic Illness Management in Primary Care'. In this clinical unit, the students undertake a 2-week community health placement experience. Following ethical approval amendment to include this cohort of students as potential participants, the project was promoted on the Moodle site for this third-year unit. Again, there was little interest. The third-year students' semester had been preloaded with teaching in the first 5 weeks, and then they rotated out over an extended semester (further 15 weeks due to the cohort size) to undertake their community health placement (2 weeks) as well as an acute care placement (4 weeks). During this non-campus period, the students had major assignments for both clinical units to complete. Once they had completed their theoretical and clinical assessments, the students did not return to campus. So, contending with the strong preference by nursing students to engage in post-practicum facilitated small groups, to encourage participation, a further amendment was submitted to the university's ethics committee and approved to offer participants a small payment. The invitation was worded:

> You are invited to consider participating in the project: *One week and sixty seconds of community health – what is learnt?* This is a nursing specific project being led by A/Prof Jenny Newton under the auspices of a large Office of Learning and Teaching project led by Prof Stephen Billett (Griffith University). The focus of this OLT project is how to enhance

> students' learning following clinical placement experiences in community health practice and in sharing that learning with your peers. Further information about the project can be found on a unique Moodle site for this project: Critical Reflection on Community Practice. Participating students will receive a $50 Coles/Myer gift voucher in recognition of their time and participation.

This invitation yielded slight interest; the timing probably helped as it was coming towards the end of the extended semester with a major end of year event looming. This section has contextualised the environment in relation to participant engagement with this project, which had an underlying influence on the intervention and outcomes.

## 11.8 Findings

In Phase 1 of the project, 6 MNP students from a cohort of 54 students gave permission and provided access to their written responses in their community health clinical portfolio to the question: *Reflecting on your personal objectives for the week what is the key learning that you are taking away with you*? Latent content analysis as described by Bengtsson (2016) yielded three predominant themes. The first theme was *skill acquisition* where students' focus of their learning ranged from describing learning new skills in managing equipment (e.g. renal dialysis machine) to consolidating prior learnt skills such as undertaking client assessments, though in a more informal way. The second theme was an *enhanced appreciation of caring for older people with chronic conditions.* Here the students had written comments, such as 'the health of the older adults often fluctuate unpredictably', noticing that community nurses need to address the interaction of acute and chronic conditions. *Teamwork* was the third theme where students had referred to the multidisciplinary nature of community nursing. However, from the students' responses, there was only one student who demonstrated any reflectivity, clearly identifying insight into their learning from their community health placement (in a palliative care team) and how they would take this learning into their future practice.

The lack of critical reflectivity in the written community portfolios was not surprising. As Coffey (2014) notes in truncated graduate entry programmes, students have little time to develop reflective practice skills. Thus, she argues it is incumbent on the educator to employ the 'most expedient means of developing skills in reflection' (p. 88) and contends that video may offer a means for developing skills in reflection. However, the students' portfolio responses offered insights into what they considered as key learning and provided a platform for guiding the formation of the Moodle site: *Critical reflection in Community Practice,* the reflective questions and guideline for the video creations in Phase 2.

Eight students consented to participate in making a reflective video on the community health placement experience. Five were from the MNP programme (cohort $n = 56$) and three students from the BN programme (cohort $n = 406$). However, of the five MNP students, only two created a video. One MNP student, who did not

make a video, did view the discussion forum on the Moodle site. All three BN students made a video, though one student after experiencing difficulties in uploading her video to the Moodle site choose to withdraw from the project. The four participating students, who consented for their true name to be used, came from quite differing backgrounds to study nursing. A brief profile of these students is presented below, as 'there are personally distinct and diverse pathways that lead individuals to identify with a particular occupation, and to make it their vocation' (Billett, Newton and Ockerby, 2010, p. 49), and such distinctions may well have influenced their approach in making their reflective video. These profiles (see Table 11.1) are compiled from information shared in the student interviews in Phase 3 of the project, when they were asked to provide some background prior to commencing their nursing studies.

The practicalities of creating the videos and the final products varied quite significantly. Bozena demonstrated the essence of being fully engaged with the concept of this post-practicum learning activity. In her participation she demonstrated an enthusiasm that was resonated in an email on completing her video: *Thank you for this opportunity. I had a lot of fun creating my video for your project.* Indeed, from a pedagogic perspective, the creation of Bozena's video illustrates that making a reflective video is an activity that can be undertaken with relative ease and within

**Table 11.1** Participant profiles

| Participant | Degree programme | Pathway into nursing |
|---|---|---|
| Anita | MNP | Had been studying continuously at university for 12 years. She had come a rather circuitous route into her course having initially gone from high school to complete a Bachelor of Music Performance. She then undertook an Arts degree majoring in anthropology and history, with an honours year in anthropology. This generated an interest in indigenous health with a focus on cultural sensitivity and safety practices with obstetric care in indigenous communities. This inspired her to pursue nursing |
| Paula | MNP | Initially worked in advertising and events prior to commencing a family. Having children changed her career direction and she spent 10 years working in disability caring as a support worker predominantly for quadriplegics and realised that she loved working in the care industry so thought she should become qualified and become a registered nurse |
| Catelyn | BN | Came from a very small community which inspired her to want to help the community. She completed a law degree and started an internship and found that it distanced herself from people. Took a year off, did some volunteer work through AusAID programme in the Solomon Islands, not in a health- related field though the experience made her seriously consider doing nursing, as she eventually wants to work in communities overseas. She sees health transgresses across all countries regardless of cultural differences |
| Bozena | BN | Had commenced her nursing degree straight from completing her year 12 (final year) at secondary college. She had studied health and biology at high school and had no prior work experience |

a short time frame. Bozena sent an email late one afternoon, indicating she would be interested in participating the project. Within an hour she had sent through her consent form and sought some further clarification on what was required. The following evening Bozena sent an email regarding issues she was having with trying to access some music for her video. A flurry of emails occurred as she worked through trying to access music from the library's list, which she eventually did. Just over 48 h from her original email, her completed video had been uploaded onto the Moodle site along with a permission form, from the registered nurse who had consented for her image to be used in the video. In viewing Bozena's video, there was a sense of professionalism to her video. In contrast, Paula, who was the first student to consent to participate, sent several emails over a period of weeks, apologising for taking so long to create her video. Her completed video was quite simplistic with an image of herself talking into the camera and reading off her notes, with a concluding sub-text thanking you for watching her video. Having been asked to create just a 60 s video, the average length was 3 min and 46 s, with the longest being Catelyn's of 6 min and 34 s. The next section elaborates in detail the analysis of the videos.

### *11.8.1 The Videos*

To analyse the videos, we drew upon the Reflective Writing Framework (Freeman & Bett, 2012; Hatton & Smith, 1995) to assist with analysis of students' level of reflectivity, along with undertaking qualitative content analysis (Bengtsson, 2016). Qualitative content analysis entails examination of participants' words and/or texts and is undertaken in four stages: decontextualisation, recontextualisation, categorisation, and compilation (see Bengtsson, 2016 for detail account). The Reflective Writing Framework has been utilised in recent years in analysing student blogs (Dos & Demir, 2013), and we adapted this within our analysis as it is premised on four types of reflection, Descriptive Reflection, Dialogue Reflection, and Critical Reflection. The fourth is Descriptive Writing (unreflective) which entails just simple reporting of skills gained through experience (Freeman & Brett, 2012; Dos & Demir, 2012). Personal experience is still a focus in Descriptive Reflection but encompasses an attempt to provide reasons for events and actions. Dialogue Reflection entails being analytical, stepping back from events, seeing inconsistencies, and searching for multiple perspectives and exploring alternative solutions (Dos & Demir, 2012; Moon, 2006). Engaging in Critical Reflection requires the ability to perceive events within the historical, socio-political, cultural, and ethical contexts (Dos & Demir, 2012). Thus, in the context of viewing the videos, we reviewed them to ascertain whether the student's narrative in their video reflected any of these four elements. Table 11.2 offers examples of the students' levels of reflectivity. The left-hand column provides the student's name, and the next four columns indicate the type of reflection the student used, with an asterisk indicating if a particular level of reflectivity was present. If a column has no asterisk against the student's name, then that specific reflective level was not apparent in the

**Table 11.2** Levels of reflectivity

| Name | Descriptive (unreflective) (D) | Descriptive (DR) | Dialogue (DD) | Critical (C) | Examples from video narratives |
|---|---|---|---|---|---|
| Paula | * | ** | *** | | *'Diverse ranges in age and types of service users in Hospital in the Home, some are long time users' (D) |
| | | | | | ** 'Small visits can mean so much to the client…to keep them on track [referring to dementia clients]' (DR) |
| | | | | | *** 'More vulnerable chronic disease patients are isolated' (DD) |
| Anita | * | ** | *** | **** | ** '…I found that myself, reflecting on the pre-discharge education we provide to patients and how absolutely necessary it is to be concise in such an explanation…' (DR) |
| | | | | | ***'… as well as mindful of their housing situation or accessibility to medications' (DD) |
| | | | | | **** '… many of these elderly people are living on their own … to reinforce impact of chronic illness in the community… we as nurses must not only advocate for the physical well-being but also the psychological well-being' (C) |
| Bozena | * | ** | *** | | * 'One of the many Aged Care facilities visited' (D) [note this was subtitled text over an image of a facility] |
| | | | | | ** 'Having effective time management skills allowed me to remain in control' (DR) |
| | | | | | ** 'InReach play a major role in caring for residents of aged care…preventing hospital admissions' (DD) |
| Catelyn | * | ** | *** | **** | *'I had 2 weeks on community placement, 1 week in palliative care, and the other in HART' (D) |
| | | | | | *** 'When I stepped into my placement, doing the community healthcare and looking at chronic illnesses for what they really were, I realised that it was somewhere more like that [indicates very tip of an iceberg diagram] that we were seeing in acute care' (DD) |
| | | | | | **** '…it wasn't something that I'd really questioned before, how important it is that we respect and understand that every single person has a differing understanding or different interpretation of what quality of life is…' (C) |

student's narrative. The far-right column offers examples from the students' narratives, with the number of asterisks indicating which reflectivity level the narrative was determined to be at: * Descriptive unreflective (D), ** Descriptive (DR), *** Dialogue (D), and **** Critical (C).

In examining these reflective comments, we posit that perhaps Anita and Catelyn due to their prior engagement in academic studies, in particular Catelyn's experience as a volunteer, enabled them to view their practicum experiences through a more nuanced critical lens. Anita whose video was over 4 min spent more time reflecting on her critical moments of learning, sharing how her placement experience would influence her ongoing practice throughout her future nursing. She articulated more insight into a deeper understanding of the significant role of the community health nurses. In contrast, in Bozena's video, aspects of her key learning did not appear till 1 min and 20 s into her video. Given the entire length of her video was just under 2 min in length left little space for critical reflection. However, whilst Bozena's video possibly lacked somewhat in critical reflectivity, what really stood out is that she produced something in a relatively short space of time. There was a real sense of willingness and engagement with this learning activity. This engagement may be associated with someone who has grown up in an increasing technological environment and proffered a degree of confidence. This aspect was explored with Bozena in her interview in Phase 3. Being clear on what the purpose is of the reflective video is imperative. If one is expecting a level of critical reflectivity from students and not merely a descriptive commentary, then the provision of key questions is necessary to assist with reflections. This is particularly important given the short time frame that was suggested in this project for the length of the videos. Having ascertained the levels of reflectivity, we then examined the knowledge content of the students' videos.

Four core themes were identified from a manifest content analysis (Bengtsson, 2016) of the students' videos. In manifest content analysis data is interpreted in words and text describing what the participants say and staying very close to their words used (Bengtsson, 2016). Each member of the project team reviewed the videos independently, identified meaning units in the narratives, excluded 'dross', and then met to discuss the analysed video narratives, and consensus was agreed on completely. The four themes were (1) *the roles of community nurse varies*, (2) *the intersection between community and acute care is important*, (3) *enhanced appreciation of caring for older people with chronic conditions (*which was a theme also identified in the students' written portfolio), and (4) *how the community experience would influence their future practice.* Below, we offer a short discussion of each of the four identified themes and provide examples and quotes from the students' reflective videos.

1. *The role of the community nurse varies*

The students' videos demonstrated that their experiences in community health practice enhanced both their understanding of the specialty and their appreciation for the various roles that a community practice nurse might engage in. They made comments such as 'I became aware of how diverse community nursing can be, and

what a crucial service that they provide' (Paula) and 'this placement has allowed me to recognise the value of community nursing, as well as to understand the roles and responsibilities of the InReach (community nursing service) staff' (Bozena). The students began to understand that whilst the community nurse role includes physical caregiving tasks, such as management of indwelling urinary catheters or wound dressings, they also 'play a major role in caring for residents of aged care facilities, as well as preventing hospital admissions' (Bozena). The placement provided insight into the various roles of the community nurse; students viewed the nurses as 'advocates' (Paula), who were 'working with clients that were frequently presenting to the hospital ED and trying to stop those presentations from happening' (Catelyn) by 'communicating all areas of the treatment process, whilst fervently educating' (Anita) the clients they worked with. In addition, the students described learning that the community nursing role encompassed chronic disease management, mental healthcare, patient education and empowerment, psychosocial support, and, importantly, prevention of illness decline and hospital readmission. The videos demonstrated the students' heightened awareness of the various locations that community nurses worked in, with photos of various locations provided by Bozena. Indeed, this finding supports previous studies (Price et al. 2015; Sandars, 2009) that the use of digital storytelling and video heightens students' noticing and reflectivity.

2. *The intersection between community and acute care is important*

Enhanced understanding of the important link between community practice and acute care was evident in the students' videos. This was especially true to both Anita and Catelyn, who 'found this a particularly important learning curve when it came to compare acute setting patients to that of community setting patients' (Anita). Engaging in a community practice allowed the students to realise the vast scale of community healthcare needs, contrasting strongly with their previous focus on acute care: 'When I was doing my placement in acute care setting, they always said (shows picture of triangle) if this was a mountain… or an iceberg, icebergs probably better, that we were seeing the tip of the iceberg when we had a patient in the acute care setting, and I thought that it sort of sat about there (indicates halfway down triangle)…When I stepped into my placement, doing the community healthcare and looking at chronic illnesses for what they really were, I realised that it was somewhere more like that (indicates very tip) that we were seeing in acute care' (Catelyn). Community nursing experiences allowed the students to see 'the implications of chronic illness and how they are managed once a patient is discharged' (Anita) and that 'There was so much else going on…that we had to address before we…sort of, let the patient start taking care of their illness independently' (Catelyn). The students were able to identify the importance of community healthcare as an interim service between hospital and home care, with the nurses, recognising the prominence of connecting with relevant services in order to maintain patient's health and recovery and prevent hospital readmission. This suggests the students gained a new perspective and transformational learning, regarding their discipline practice, that nursing is a holistic encompassing practice, with the patient or client being at the centre of healthcare delivery.

3. *Enhanced appreciation of caring for older people with chronic conditions*

Participating in community health placements 'helped me to understand just how much chronic illness impacts on the life of the person' (Catelyn), and this was prominent in the students' videos. The community placements allowed the students to see and understand both the physical and psychological impacts that chronic illness has for patients in the community: 'One of the critical points I learned while on the community placement was that reinforcement of the impact of chronic illness in the community from a psychological perspective' (Anita). They came to understand the importance of appropriate management of chronic illness in the community in preventing both physical or psychological decline and subsequent hospital admission. Indeed, Anita noted that without proper management, chronic illness 'can progress towards varying levels of disability and eventually may result in multiple readmissions'. In developing this understanding, the students saw the community health nurse playing a vital role in providing education, empowering patients, performing health assessments, and offering psychological support. This was encapsulated by Paula, who noted that 'chronic disease and illness must be managed, and the more vulnerable patients really do need our assistance', and that 'many patients with chronic disease or illness are isolated, and they really look forward to having that interaction with the nurses'. Again, it can be seen in this theme that as a practicum experience, community health placement offers students enhancement and development of their knowledge and understanding of the expansive nature of nursing as a discipline. It provides valuable insights into the spectrum of healthcare management.

4. *How the community experience would influence their future practice*

The students identified a number of crucial ways that their community nursing practicum improved or influenced their future nursing practice. Bozena felt that her placement made her 'appreciate the value of ISBAR [a pneumonic for ensuring standardise handover communication between health professionals]' because she had to communicate with nurses from different facilities, improved her time management skills, and helped her appreciate the value and importance of following hospital protocols. Catelyn commented that she learned about the various community resources available to her patients and how to utilise them. Anita also commented on anticipated improvements to her communication skills with patients but felt this arose from an increased appreciation of their post-discharge needs: 'It was greatly important to witness patients in their own comfort zone … given that we, as future nurses, rarely get to see the transition of the patient from the acute setting to the community, I found that myself, reflecting on the pre-discharge education we provide to patients, and how absolutely necessary it is to be concise in such an explanation, as well as mindful of their housing situation or accessibility to medications'. Both Anita and Catelyn also felt they had grown in their understandings of what their role as a nurse entailed. They provided comments such as 'It made me think about how, even though when I'm working in an acute setting I might not necessarily be responsible for the ongoing care of that patient, I can be responsible

for making sure that they at least understand what kinds of things might be impacted by their illness or new changes in their health' (Catelyn). For Catelyn, her placement also enhanced her person-centred care skills. She commented both that 'One of the biggest things I took away from this placement is that it is so important to not look at chronic illness as though it is separate from somebody's life, but that it contributes to what their life actually is'. She identified that previously held perceptions in what quality life means, in the context of chronic illness, had been challenged. Given Anita and Catelyn's prior backgrounds, this practicum experience afforded the opportunity to foster their critical reflectivity as illustrated in the above extracts of their video narratives, challenging their previous held views on their nursing practice.

Clearly, as illustrated above the students' videos offered some significant learnings of their community placements and provided a rich repository of knowledge from which others could learn about the diversity of community placements. Indeed, what was very apparent from the detail of the images Bozena had in her video (e.g. festive, decorated, multiple group photos on walls, implying a fun and friendly place to work, well-supported environment) is that she had made a strong effort to contextualise what her community placement service entailed. This section of her video would be informative for other students who are going out on the same or similar placement setting. Overall, the depth of knowledge shared in the videos offered greater insights compared with the written responses of the Phase 1 participants. However, the uptake of discussion on the Moodle forum by the participants was scant and is discussed in the next section before presenting the findings of Phase 3, which explored the students' experiences of creating their videos.

### *11.8.2 Discussion Forum*

All four students placed an initial post on the Moodle forum when they uploaded their video. The content of these posts centred on informing the reader about the 'wonderful and exciting time they had had on their community placement… I'll never forget my time there' and 'here is a video of some of my reflections'. We responded to each student at the time that they posted on the forum. However, our comments were the only posts. Disappointed with this lack of engagement, we explored this in the Phase 3 interviews with the students. Previous studies on students' engagement with online discussion forums have found that students perceive this form of learning as unnatural and forced (Croxton, 2014). Indeed, Cain et al. (2019) found that online learning forums are not well favoured by students as an educational intervention. The students shared that due to time constraints, i.e., their own time management, they did not post comments, though they had viewed each other's videos. Indeed, as Anita shared, '…I did watch all of the other videos, and thought they were incredible and very diverse'. Interestingly, Catelyn indicated that the reason she did not post any comments was associated with her reticence in not

wanting to see any reactions to her video. Perhaps suggesting a vulnerability within her or prior experience of negative feedback.

### *11.8.3 Students' Experiences*

The participating students volunteered to be individually interviewed. The interviews were audio-recorded, transcribed verbatim, and analysed thematically (Vaismoradi, Turunen, & Bondas, 2013). Four themes emerged from the data: *reasons for participation*, *barriers encountered*, '*it makes you think'*, and *potential use,* which are elaborated on below.

The first theme *reasons for participation* centred on the reasons that the students gave for participating in this project. These were quite varied ranging from the opportunity just wanting to help out, an enjoyment for community health to having the opportunity to be creative. As Bozena recounted, 'I've never experienced anything like it, creating a video on placement… I thought it would be really fun to do that… it would be a great experience and to just really put myself out there'. In contrast Anita shared that her reason for participating was that she just liked 'helping out with research projects'. This stems from her desire that she wants to be a researcher one day, and it would be reasonable to assume that her lengthy experience as a university student may have been a contributing factor. Both Catelyn and Paula alluded to their enjoyment and passion of community healthcare as being their reasons for participating.

*Barriers encountered* describes the students' experiences in making their videos and ranged from technical difficulties in uploading the videos, the time duration (that is the length of the video), finding the time to create the video, to their perceptions as to why their peers may not have volunteered to participate. Paula indicated that she would have preferred to have made a much better video but felt constraint by her final semester workload, with doing her nursing course and working. She shared, 'I just couldn't see a time slot where I could dedicate more time to making a better video… it was just a little bit of a bash on my phone camera…'. Managing to articulate their reflections in the given time frame was clearly a barrier for the students. As Anita shared, '…I don't think 60 to 90 seconds is long enough, that's one sentence or something, in my opinion. Because I'm a chatter box'. The students concurred that one could not really put across what you wanted to say in 60–90 s. Catelyn noted that in making her video, she did not want to go off on a tangent but identified that she was 'very waffly and things'. Indeed, as identified earlier, her video was the longest in length. The reticence of students to participate in the project was thought to be associated with being overwhelmed about recording themselves.

*'It makes you think'*. In this theme the students identified that making a reflective video made them 'think about what they were saying' as opposed to just writing stock-standard answers to enable the 'ticking off' a required assessment task. As Bozena shared, 'I think it really gets you to show your creative side'. The students

also noted it allowed them to show their knowledge in a different light that could 'not have been portrayed through a written piece'. Indeed, they felt that they were able to express themselves more fully through the medium of the video as it enabled voice nuances and expression to come through more thoroughly than just writing. The reflective questions provided a good guidance in assisting the students, 'it left the framework open instead of putting words into our mouths' (Catelyn). Creating a video, as she found it exciting, made Bozena think about grasping every moment on her placement, taking in moments that she might have otherwise missed, and opening herself up to new experiences.

The final theme, *potential use*, focuses on the students' ideas of how such a post-practicum learning activity could be enhanced. These ranged from increasing the length of time of the video – which they all voiced – to how the videos could be a useful source of knowledge for students prior to undertaking their community health placement and offering some technical support. However, in offering this latter suggestion, it was identified that such support is resource heavy, though the quality of the video would be higher and might encourage greater engagement in viewing them. Anita shared that it would be helpful to employ such a task into the mental health placement, as this is also an interesting and enriching placement experience. Catelyn offered suggestions that the students' videos could be edited by an academic staff, so that key messages or points could be put together in another video, '… picking out what you [referring to the academic] think is best for students to know and then putting them together in another video'. Her rationale for this stemmed from as she watched the other student videos, she felt they were saying similar things or would get to midpoint of a video and find something really interesting, which from her perspective should have been at the beginning of the video.

The personal perspective in which an individual engages in a learning task that incorporates technology into the reflective process is very much an individualistic process (Baporikar, 2016). This is certainly supported in these students' experiences of creating a reflective video which not only highlights the variance in their capacity to engage with this post-practicum learning activity but also was reflected in their final product. Bozena articulated that she found it 'a really great experience and something that you don't get to experience throughout your nursing degree… I really wanted to be engaged…'. Such was her enthusiasm in creating her video, she showed her family and some of her non-nursing friends. Anita also shared that she had had heaps of fun in making her video. Yet, prior to embarking on making the video, she did not perceive it was going to be as enjoyable and reflective as it was. Conversely, Paula was burdened by her study, work commitments, and frustrations with lack of supporting technology, so whilst the intent was there to engage with the post-practicum intervention, her enthusiasm was compromised. Overall, it would seem that this post-practicum intervention enabled the enhancement of the students' knowledge development of community health nursing, through sharing their learning in creating a reflective video. How the students approached this task, as we have illustrated in this case study, was influenced by their depositions and prior experience to undertaking their nursing degree. We considered at the beginning of this chapter that there is an increasing techno-savvy generation of students, who require

more creative visual and audio pedagogical approaches to engage them in learning. Hence, we postulated that using reflective video for a post-practicum intervention was one approach that might afford this generation of students the necessary element of creativity. Yet, as often when trailing an innovation, there can be hiccups along the way, which we have attempted to illuminate in this case study. In the next section, we make some recommendations premised on our learnings from this post-practicum intervention.

## 11.9 Intervention Design Recommendations

As this case study has elucidated, there are important learnings in moving forward with such a pedagogical activity to augment post-practicum experiences. Instructing students prior to making a reflective video of a placement experience, being able to contextualise the setting is an important aspect, in setting the scene – the descriptive (unreflective). Ensuring that there are guiding reflective questions that will encourage descriptive (reflectivity), dialogue (reflectivity), and critical (reflectivity) being mindful that such guidance is open enough to provide some direction without restricting students' creativity. Consideration also needs to be given to what will appeal to students in either making or viewing videos created by their peers to augment their learning. Anita's video was a video of herself talking into her computer camera. In contrast, Bozena's video captured one's attention at the beginning with music and images. Listening to someone just speaking into a camera does not quite hold one's attention as readily.

In establishing an activity, such as the one attempted in this project, it would be worthwhile ascertaining the ability and confidence of the cohort of students in making a video. As previously mentioned, Paula indicated a lack of confidence in her ability to produce a 'good enough video'. Hence, preparation of the students before embarking on such an endeavour is a further pedagogical consideration. Deliberation on whether an optional teaching session with multimedia staff is needed to provide strategies and tips in producing a video for those students who require guidance may well allay students' lack of confidence. Engaging student participation in a discussion forum would be another aspect to consider. Establishing a minimum number of posts that students are expected to make on reviewing their peers' videos is a vexed issue, because finding the right amount of student-to-student interactivity in online discussion forums is dependent on the type and level of student (Croxton, 2014).

This post-practicum intervention was a voluntary activity. The students were still required to undertake completion of their subject's summative written assessments that incorporated a reflective component. Introducing creating a video as an alternative assessment, that is, giving students the freedom to choose which mode of assessment they would prefer, to reflect on their post-practicum learning, may make their learning more meaningful and engaging (Baporikar, 2016) and not become just another 'assessment task to tick off'.

## 11.10 Conclusion

In a recent concept analysis of reflection, Sadlon (2018, p. 4) theorises that reflection 'is the critical enactments of consciousness about the value of experience at any moment in the unfolding of newly shaped realities in knowing and doing'. This chapter has highlighted that reflection is an important aspect of nursing practice to enable professional growth. Yet, it is often poorly integrated into curriculum as an essential learning activity. Reflection is often just incorporated into a written assignment or as a journal task, with minimal regard to student engagement with the activity or whether scaffolding of reflectivity is occurring across a programme of study. As technology advances exponentially, the next cohort of students will be even more techno-savvy. Hence pedagogical strategies, such as student reflective videos, need to become mainstream. If provided with the right preparation and guidance, as this project has highlighted, reflective videos can heighten an awareness, enabling students to critically reflect on their post-practicum experience, challenge their previously held values, and reshape their perspectives on their discipline practice.

## References

Al Sabei, D., & Lasater, K. (2016). Simulation debriefing for clinical judgment development: A concept analysis. *Nurse Education Today, 45*, 42–47. https://doi.org/10.1016/j.nedt.2016.06.008

American Nursing Association (ANA). (2010). *Nursing: Scope and standards of practice*. Silver Spring, MD: Author.

Atkins, A., & Schutz, S. (2013). *Developing skills for reflective practice* (5th ed.). Oxford, UK: Wiley.

Baporikar, N. (2016). Technology integration and innovation during reflective teaching. *International Journal of Information and Communication Technology Education, 12*(2 April–June), 9. https://doi.org/10.4018/IJICTE.2016040102

Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open, 2*, 8–14.

Billett, S., Newton, J. M., & Ockerby, C. M. (2010). Socio-personal premises for selecting and securing an occupation as vocation. *Studies in the Education of Adults, 42*(1), 15. https://doi.org/10.1080/02660830.2010.11661588

Boud, D. (2010). Relocating reflection in the context of practice. In H. Bradbury, N. Frost, S. Kilminster, & M. Zukas (Eds.), *Beyond reflective practice. Abingdon*. Oxon: Routledge.

Boud, D., Keogh, R., & Walker, D. (1985). *Reflection, turning experience into learning*. London, United Kingdon: Kogan Page.

Bowden, T., Rowlands, A., Buckwell, M., & Abbott, S. (2012). Web-based video and feedback in the teaching of cardiopulmonary resuscitation. *Nurse Education Today, 32*(4), 443–447. https://doi.org/10.1016/j.nedt.2011.04.003

Bussard, M. E. (2016). Self-reflection of video-recorded high-fidelity simulations and development of clinical judgment. *Journal of Nursing Education, 55*(6), 522–527.

Cain, M., Le, A. H., & Billett, S. (2019). Sharing stories and building resilience: Student preferences and processes of post-practicum interventions. In S. Billett, J. M. Newton, R. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences*. Heidelberg: Springer Nature.

Cant, R. P., & Cooper, S. J. (2011). The benefits of debriefing as formative feedback in nurse education. *Australian Journal of Advanced Nursing, 29*(1), 37–47.

Cemusca, D., Thompson, S., & Riggins, J. (2017). Learning sterile procedures through transformative reflection. *Nurse Educator, 0*(0), 1–4. https://doi.org/10.1097/NNE.0000000000000491

Coffey, A. M. (2014). Using video to develop skills in reflection in teacher education students. *Australian Journal of Teacher Education, 39*(9), 86–97. https://doi.org/10.14221/ajte.2014v39n9.7

Corbin Frazier, L., & Eick, C. (2015). Approaches to critical reflection: Written and video journaling. *Reflective Practice, 16*(5), 575–594. https://doi.org/10.1080/14623943.2015.1064374

Coulson, D., & Harvey, M. (2013). Scaffolding student reflection for experience-based learning: A framework. *Teaching in Higher Education, 18*(4), 401–413. https://doi.org/10.1080/13562517.2012.752726

Croxton, R. A. (2014). The role of interactivity in student satisfaction and persistence in online learning. *MERLOT Journal of Online Learning and Teaching, 10*(2), 314–325.

Dewey, J. (1933). *How we think* (Rev. ed.). Boston: D.C. Health.

Dos, B., & Demir, S. (2013). The analysis of the blogs created in a blended course through the reflective thinking perspective. *Educational Sciences: Theory & Practice, 13*(2), 1335–1344.

Epp, S. (2008). The value of reflective journaling in undergraduate nursing education: A literature review. *International Journal of Nursing Studies, 45*(9), 1379–1388. https://doi.org/10.1016/j.ijnurstu.2008.01.006

Freeman, W., & Brett, C. (2012). Prompting authentic blogging practice in an online graduate course. *Computers & Education, 59*(3), 1032–1041. https://doi.org/10.1016/j.compedu.2012.03.019

Gibbs, G. (1988). *Learning by doing: A guide to teaching and learning methods*. London: Great Britain Further Education Unit.

Hannigan, B. (2001). A discussion of the strengths and weaknesses of 'reflection' in nursing practice and education. *Journal of Clinical Nursing, 10*(2), 278–283. https://doi.org/10.1111/j.1365-2702.2001.00459.x

Hatton, N., & Smith, D. (1995). Reflection in teacher education: Towards definition and implementation. *Teaching & Teacher Education, 11*(1), 33–49.

Johns, C. (2009). *Becoming a reflective practitioner*. Chichester, UK: Wiley.

Kajder, S., & Parkes, K. (2012). Examining preservice teachers' reflective practice within and across multimodal writing environments. *Journal of Technology and Teacher Education, 20*(3), 229–249.

Mann, K., Gordon, J., & MacLeod, A. (2007). Reflection and reflective practice in health professions education: A systematic review. *Advances in Health Sciences Education, 14*(4), 595. https://doi.org/10.1007/s10459-007-9090-2

Mills, J., West, C., Langtree, T., Usher, K., Henry, R., Chamberlain-Salaun, J., et al. (2014). 'Putting it together': Unfolding case studies and high-fidelity simulation in the first-year of an undergraduate nursing curriculum. *Nurse Education in Practice, 14*(1), 12–17. https://doi.org/10.1016/j.nepr.2013.06.003

Miraglia, R., & Asselin, M. (2015). Reflection as an educational strategy in nursing professional development. *Journal for Nurses in Professional Development, An Integrative Review, 31*(2), 62–67. https://doi.org/10.1097/NND.0000000000000151

Moon, J. (2004). *A handbook of reflective and experiential learning: Theory and practice*. New York: Routledge Falmer.

Moon, J. A. (2006). *Learning journals. A handbook for reflective practice and professional development* (2nd ed.). London: Routledge.

Nagle, J. F. (2009). Becoming a reflective practitioner in the age of accountability. *The Education Forum, 73*, 76–86.

Newton, J. M. (2011). Reflective learning groups for student nurses. In S. Billet & A. Henderson (Eds.), *Developing learning professionals: Integrating experiences in university and practice settings* (Vol. 7). Dordrecht, The Netherlands: Springer.

Nursing and Midwifery Board of Australia (NMBA). (2016). *Registered nurse standards for practice*. Canberra, Australia: Author.

Nursing and Midwifery Council (NMC). (2015). *The code: Professional standards of practice and behavior for nurses and midwives*. London: Author.

Nursing Council of New Zealand. (2012). *Code of conduct: For nurses*. Wellington, New Zealand: Author.

Price, D. M., Strodtman, L., Brough, E., Lonn, S., & Luo, A. (2015). Digital storytelling: An innovative technological approach to nursing education. *Nurse Educator, 40*(2), 66–70. https://doi.org/10.1097/nne.0000000000000094

Reed, S. J., Andrews, C. M., & Ravert, P. (2013). Debriefing simulations: Comparison of debriefing with video and debriefing alone. *Clinical Simulation in Nursing, 9*(12), e585–e591. https://doi.org/10.1016/j.ecns.2013.05.007

Royle, C., & Hargiss, K. (2015). Comparison of baccalaureate nursing students' experience of video-assisted debriefing versus oral debriefing following high-fidelity human simulation. *International Journal of Strategic Information Technology and Applications (IJSITA), 6*(2), 40–49. https://doi.org/10.4018/IJSITA.2015040103

Sadlon, P. P. (2018). The process of reflection: A principle-based concept analysis. *Nursing Forum*, 1–5. https://doi.org/10.1111/nuf.12251

Sandars, J. (2009). The use of reflection in medical education: AMEE guide no. 44. *Medical Teacher, 31*(8), 685–695. https://doi.org/10.1080/01421590903050374

Sandars, J., & Homer, M. (2008). Reflective learning and the net generation. *Medical Teacher, 30*(9–10), 877–879. https://doi.org/10.1080/01421590802263490

Sandars, J., & Murray, C. (2009). Digital storytelling for reflection in undergraduate medical education: A pilot study. *Education for Primary Care, 20*(6), 441–444. https://doi.org/10.1080/14739879.2009.11493832

Schön, D. (1983). *The reflective practitioner*. San Francisco: Jossey-Bass.

Smith, A., & Jack, K. (2005). Reflective practice: A meaningful task for students. *Nursing Standard, 19*(26), 33–37. https://doi.org/10.7748/ns2005.03.19.26.33.c3818

Stacey, G., & Hardy, P. (2011). Challenging the shock of reality through digital storytelling. *Nurse Education in Practice, 11*(2), 159–164. https://doi.org/10.1016/j.nepr.2010.08.003

Taylor, B. J. (2010). *Reflective practice for healthcare professionals: A practical guide* (3rd ed.). Maidenhead, NY: Open University Press.

Taylor, E. W. (2007). An update of transformative learning theory: A critical review of the empirical research (1999–2005). *International Journal of Lifelong Education, 26*(2), 173–191. https://doi.org/10.1080/02601370701219475

Tripp, T., & Rich, P. (2012). Using video to analyze one's own teaching. *British Journal of Educational Technology, 43*(4), 678–704. https://doi.org/10.1111/j.1467-8535.2011.01234.x

Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing and Health Sciences, 15*, 398–405.

Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). Thousand Oaks, CA: Sage.

Yoo, M. S., Son, Y. J., Kim, Y. S., & Park, J. H. (2009). Video-based self-assessment: Implementation and evaluation in an undergraduate nursing course. *Nurse Education Today, 29*(6), 585–589. https://doi.org/10.1016/j.nedt.2008.12.008

# Chapter 12
# The Reflective Debrief: Using Students' Placement Experiences to Enrich Understandings of Distinct Kinds of Nutrition and Dietetic Practice


**Lauren T. Williams, Lynda Ross, Lana Mitchell, and Katherine Markwell**

## 12.1 Introduction: Why Is Reflective Debriefing a Useful Post-practicum Intervention for Health Professional Students?

The practicum is one of the most important components in health professional education. It is also one of the most challenging. Spending time in the acute care hospital setting can be confronting, stressful and upsetting for health professional students (Andrews et al., 2006). James and Chapman (2010) investigating student nurses' clinical placement experiences identified a key theme as 'being overwhelmed and confronted'. A systematic review of qualitative research of student nurses found that 'stress and coping' underpinned the practicum experience in this profession (Thomas, Jack, & Jinks, 2012). Students may experience emotionally confronting situations on clinical placements (e.g. patient death) and do not necessarily receive adequate debriefing for those events (Macdonald & Tighe, 2014). Students may carry negative emotions from these experiences, with the potential to affect their future working lives; thus it is important for the university to utilise specialised learning and teaching strategies to enable students to process their experiences.

Debriefing is a learning and teaching strategy that can be used post-practicum to ameliorate the stress associated with the placement environment and to provide students with the opportunity to develop reflective skills and knowledge in self-care and to embed practicum evaluation within the curriculum (Mackenzie, 2002).

L. T. Williams (✉) · L. Ross · L. Mitchell
School of Allied Health Sciences, Griffith University, Gold Coast, QLD, Australia
e-mail: lauren.williams@griffith.edu.au

K. Markwell
School of Allied Health Sciences, Griffith University, Gold Coast, QLD, Australia

Department of Clinical Sciences and Nutrition, University of Chester, Cheshire, UK



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_12

Debriefing is a particular type of reflection, based on specific educational learning intentions (Mackenzie, 2002) and critical analysis of practical simulations (Dreifuerst, 2012). It has been defined as 'a purposeful reflection which can be undertaken by an individual or group' (Pearson & Smith in Mackenzie (2002, p. 83)). Quinton and Smallbone (2010) defined reflection as 'a mental process that incorporates critical thought about an experience and demonstrates learning that can be taken forward' (p. 126). Reflection has been associated with improved critical reasoning, essential for healthcare professionals (Feather & Fry, 2008; Wetmore, Boyd, Bowen, & Pattillo, 2010). A review by Mann, Gordon, and Macleod (2009) identified both peer support and guidance with supervision as useful to developing reflective ability. Reflective practice enhances problem-solving abilities within changing environments (McGuire, Lay, & Peters, 2009). Instructor-led debriefing has been found to be associated with higher student satisfaction and learning outcomes in physiotherapy students (Roh, Kelly, & Ha, 2016).

## 12.2 Placement in Nutrition and Dietetic Programmes

Like other health professional disciplines, dietetic students undertake a significant proportion of their professional placement in the acute hospital setting at the end of their degree. For instance, the aims of the practicum courses at Griffith University are for students to be able to demonstrate entry-level practice according to the national competency standards of the Dietitians Association of Australia (2015a) and for students to have a positive experience that enhances future confidence in dietetic practice (Ross, Mitchell, & Williams, 2017). The development of reflective skills is a key area of competency required (Dietitians Association of Australia, 2015b). Reflective practice forms the keystone of the newly graduated dietitian's credentialing as an Accredited Practising Dietitian (APD).

As health professionals, student dietitians are exposed to stressful events in the hospital setting (Macdonald & Tighe, 2014), including bioethical issues, particularly those raised by feeding interventions (Tighe & Mainwaring, 2013). Students are supported by supervisors on placements, and the role of the supervisor includes facilitating reflection (Burton, 2000); however several factors may compromise this role. Supervisors have competing demands and may not have sufficient time to consistently assist students' reflective skill development. Other allied health students have reported that reflective learning was not always present in the supervisory relationship (Trede & Smith, 2012) and performing the dual role of a supervisor and assessor (Burton, 2000) could discourage full disclosure and reflection by students. This leaves students in need of support from the academic team.

However, the nature of placement is that students are distant from the academic environment. Due to competition for placements, student dietitians are placed all over Australia, away from their peers and from the academic team. This limits the ability of academic staff to assist with practicum-based learning. Griffith University staff had attempted to use online sessions to guide students in reflection during their

placement, but this proved problematic. Some students are placed in remote areas where Internet connectivity is unreliable at best. This meant that technology-based connectivity was not possible for all students. A change in academic leadership in the discipline resulted in the 2015 final-year students being required to return to Griffith University post-placement for a week-long workshop introduced for the purposes of conducting final assessment and consolidating field-based learning. While student feedback about the workshop was positive, there was no opportunity for students to reflect formally and collectively on what they had learned in the stressful environment of the hospital setting, before seeking employment in that setting. This required a specific intervention in the post-placement curriculum.

In 2016, consequently, the post-placement workshop was modified by the academic team using design-based research principles, where development and research take place through continuous cycles of design, enactment, analysis and redesign (Edelson, 2002; van den Akker, Gravemeijer, McKenney, & Nieveen, n.d.). Through seeking and acting on student feedback, the students became codesigners of the curriculum. This project was part of a broader initiative to improve the pedagogic consistency of the practicum with the programme curriculum (Ross et al., 2017). Three activities were added to the post-placement workshop as part of a funded project: reflection and debriefing on hospital experiences, continuing professional development goal setting and a simulated job application and interview process. This chapter describes the development, implementation and evaluation of the reflection and debrief module designed to process student learning around hospital-based placement experiences. The aim of the reflective debrief was to provide a facilitated opportunity for students to reflect formally and collectively on their experiences in the hospital setting and to explore the implications of the reflection for working in that setting in future.

## 12.3 Conceptual Framework for the Post-placement Reflection and Debrief

Development of a reflective debrief session provided an opportunity for students to process challenging hospital experiences and develop collegial debriefing skills. Collegial debriefing has been found to be the most commonly used self-care method to assist with preventing compassion fatigue and burnout by Australian dietitians employed in the acute care setting (Osland, 2015). Innovative methods of teaching reflective practice have been used for dietetic and other health professional students, including group blogging, peer-assisted learning, simulations and portfolio (Christiansen, Buus Bøje & Frederiksen, 2015; Ladyshewsky & Gardner, 2008; Wright & Lundy, 2012). Lewis (2013) summarised the evidence and application of reflective practice to allied healthcare practitioners (specifically speech therapists) and summarised several methods for teaching reflection, including written reflection and reflections on a critical incident, a clinical encounter and professional development. Griffith University dietetic students are introduced to reflective skills

throughout the theoretical component of their programme and encouraged to keep written reflections during practicum learning. However, a review of healthcare student journaling research by Dyment and O'Connell (2011) found most studies reveal student journaling to be at a low level of reflection. More experienced practitioners use reflection-in-action in most situations (Mann et al., 2009 as cited in Lewis, 2013), whereas reflection-on-action is more suitable for novice practitioners. The dietetic post-placement reflection and debrief structure employed reflection-on-action in the form of students reflecting upon a critical incident, which could include a clinical encounter.

Delany and Watkin (2009) implemented a post-practicum discussion programme to develop critical reflection skills for physiotherapy students. This was an intensive programme of 3 hours a week discussion over a 6-week practicum programme, using critical incidents to guide reflection. Facilitators participated in a brief training session that taught them to question themselves in order to engage students as well as to move through critical reasoning stages (Delany & Golding, 2014; Delany & Watkin, 2009). Facilitator skill development is considered important in debriefs in interprofessional training (Di Prospero & Bhimji-Hewitt, 2011). Delaney and Watkin's (2009) debriefs incorporated critical incidents with students, drawing on the work of Benner (1984) and Dunn and Hamilton (1986) and stages of critical reasoning. Critical incidents have been identified as an important method to develop reflective ability (Lewis, 2013). A critical incident 'is a significant situation, event or opportunity that has occurred in practice, which has the potential to provide insight or stimulate professional development' (Ash et al., 1992 as cited in Dowding, Ash, & Shakespeare-Finch, 2011, p. 298). Critical incidents can be either positive or negative (Marquis & Gayraud, 2002). Marquis and Gayraud (2002) conducted an exploratory study into dietetic critical incidents and identified four main areas in incidents: actors involved, positive/negative incident, work skills required/workload and impact of incident.

Critical incidents have been used to assess the clinical experiences of new graduate dietitians (Dowding et al., 2011) and to evaluate the clinical teaching experiences of healthcare students (Solomon, 2011). We were thus fairly confident that final-year dietetic students nearing graduation would be able to identify critical incidents and the stages of critical reasoning used by physiotherapy students in Delaney and Watkin's (2009) study. The four main areas described by Marquis and Gayraud (2002) were used as prompts for dietetic students to assist them to identify critical incidents and salient information for reflection and synthesis. Reflective questions were included with critical incident recall. Questions adapted from the Newcastle Reflective Inventory for documenting a significant event (Findlay, Dempsey, & Warren-Forward, 2011) were used to prompt the students. Six key elements in a simulation debrief identified by Neill and Wotton (2011) – structured or unstructured, positive supervisor demeanour, safe and trusting environment, use of probing and cueing questions, choosing the right time for the debrief and allowing sufficient time – were incorporated into the debrief protocol. The learning objectives were:

- To consolidate critical reflective practice abilities using a structured framework
- To develop agentic learning precepts to assist in understanding the complexities of working in the acute care environment
- To discuss any difficult or traumatic events in a supportive group environment
- To develop collegial active listening and debriefing skills

## 12.4 Outline of the Reflection and Debrief Model Adopted for the Intervention

The intervention developed was a 90-minute reflective debrief session (deliberately called a reflection and debrief to emphasise the role of reflection for students), implemented upon return to university after completion of the practicum. The module comprised two sessions and was allocated a total of 90 min on Day 3 of the post-placement week. While the theoretical basis provided by Delany and Watkin (2009) underpinned the reflection and debrief, the practical issue of access to students meant that a single intensive reflection and debrief session were used (rather than weekly sessions during practicum as in their model). Given the relative isolation of students while on placement, a group-based, face-to-face, verbal reflective debrief was chosen for the opportunity to create a supportive learning environment in which the students could process clinical experiences with clinicians, teachers and peers, to integrate and synthesise personal experiences and achieve placement closure. The two-stage approach used by Dugan, Turman, and Barnes (2017) to encourage group participants to critique personal perspectives on leadership was adapted for the reflection and debrief. The two x 45-minute stages were delivered consecutively. The first phase consisted of small group sessions conducted in a round-table seating arrangement and facilitated by dietitians experienced as clinical educators and/or in student supervision and trained to perform the reflection and debrief (referred to as small group facilitators from here). Facilitators were trained to use a non-judgemental, problem-solving approach to encourage students to explore issues prior to discussing alternate actions and solutions. Facilitators were also encouraged to focus on developing trust and sharing within the small group. Small group format was used to create an atmosphere of trust, confidentiality and honesty to facilitate discussion of difficult experiences. The round-table style was used to emphasise the importance of equal participation and sharing by all students. The session commenced with an informal icebreaker to commence communication and sharing. The plan was for each group member to generate one or two critical incident reflections on their hospital experience and to verbally explore the situation with the group and for the small group facilitator to lead group discussion of actions and possible alternatives. The critical incident phases identified by Marquis and Gayraud (2002) were included as prompts, along with a description of what would constitute a critical incident.

Utilising a clinical supervisor to facilitate was aimed at ensuring the hospital debrief was purposeful and relevant to increase student learning. Students were instructed to identify critical incidents to prompt reflection. Mann et al. (2009) identified support, respect between group members and free expression of opinion as enabling factors for developing reflective ability. To enhance these aspects, principles formulated by Delany and Watkin (2009) to develop trust and sharing were included in the debrief. The ground rules established included confidentiality and privacy, listening first rather than solving and being non-judgemental. Trust and confidence established in the small group sessions were the foundation for the next session (allocated 45 minutes), which immediately followed the small group sessions, designed to engage the entire cohort in a facilitated discussion aimed at synthesising key themes arising from the previous sessions. The small group facilitators left the room so that the students would take the lead in speaking on behalf of their group. One spokesperson from each group contributed to the identification of themes for the entire cohort in the large group session, and these were documented and synthesised on a whiteboard by the academic facilitator. The synthesis of their learning was designed to reflect level 5 'synthesis' in Bloom's taxonomy (Anderson et al., 2001). The facilitator helped the students relate the broad themes to their future professional practice, professional development and their lifelong or 'agentic' learning. Agentic was first coined in social cognitive theory (Bandura, 2001) and in relation to learning refers to reflecting, intentionality and taking responsibility for one's learning (Billett, 2008). The large group format was designed to document themes arising from each small group, so that students could place their personal experiences and those of their colleagues into a broader context, to appreciate the commonalities and differences in experiences. To enhance the confidentiality and trust, established in small group sessions, we made a conscious decision not to audio-record either part of the debrief.

Understanding processes related to implementation is important when introducing interventions. The Medical Research Council of the United Kingdom recommends a mixed methods approach for process evaluation, combining data from quantitative and qualitative sources (Moore et al., 2015). This methodology was adopted to provide rich data to evaluate the hospital reflection and debrief and to contribute to curriculum redevelopment using design-based research (Edelson, 2002; va der Akker, nd). A comprehensive programme of impact and process evaluation data collection was planned. The data were designed to be collected from students, small and large group facilitators and the project officer during the implementation phase and analysed for intervention redesign and reimplementation. Outcome evaluation (employment success) will also be conducted; however this will be reported outside the time frame of this project.

## 12.5 Process for Developing, Implementing and Evaluating a Hospital Placement Reflection and Debrief Module

A project officer (KM) was employed using funds from the Australian government's (then) Office of Learning and Teaching. The project was managed by the programme director (LTW) with input from the academic dietitians on the placement teaching team (LM and LR). Ethical clearance to survey students and staff was obtained from the Human Research Ethics Committee of Griffith University prior to commencement (Approval number 2014/826).

The timeline for the stages of this project is shown in Table 12.1.

### *12.5.1 Development and Implementation of the Debrief*

The project officer researched the literature for appropriate models of debriefing students and discussed these with the programme director and the project team (see conceptual framework). A protocol for the hospital reflection and debrief module was developed to document the intervention clearly and provide training materials for facilitators. The protocol included information about reflective practice, the theoretical framework for the reflection and debrief, key learning objectives and a briefing paper to guide facilitation of the reflection and debrief. The project officer provided the initial group of small group facilitators with the debrief protocol and trained them in how to implement the small group debrief script. Training was delivered in 15-minute sessions either individually or in small groups.

The first iteration of the reflection and debrief module was implemented according to the protocol in June 2016, at the end of Semester 1. The reflective debrief was attended by 31 students. In the first session, students were divided into 5 groups of 5–7 students, and each group was facilitated by a dietitian (two clinical educators and three practising dietitians). Two of the small group facilitators were also

**Table 12.1** Timeline for reflection and debrief module development, implementation and evaluation

| Date | Action |
|---|---|
| Jan–Apr 2016 | Development of the hospital placement reflection and debrief protocol and script |
| Mar–May 2016 | Plan of the process evaluation |
| June 2016 | Training of debrief facilitators in the script |
| June 2016 | First implementation and mixed methods evaluation |
| July–Oct 2016 | Examination of the results and redesign of the reflection and debrief |
| Dec 2016 | Second implementation and survey evaluation, redesign of module |
| June 2017 | Third implementation and brief evaluation |
| July 2017 | Reporting on results |

employed by the university as clinical educators for hospital placements, and efforts were made not to allocate any of the students they had supervised to their groups to optimise student comfort with disclosure and protect confidentiality. Those facilitators checked the planned small group participant allocation, and any student with whom they had previously had direct involvement was reallocated to another facilitator. Group discussions were held in private spaces. Group members took turns in sharing, and exploration was encouraged by facilitators prior to the group discussing alternate actions and solutions. Each student was able to disclose one critical incident and explore it with their group in the time allocated. Students were provided with writing materials and encouraged to note down emerging themes to bring to the large group session. In the second stage of the session, all 31 students came together in a large group discussion facilitated by the project officer who was previously unknown to the students. The five small group facilitators did not attend this session so that the students would take responsibility for reporting on their group outcomes. Key learnings from each small group were reported in turn and common themes documented and synthesised on a whiteboard by the facilitator. The large group facilitator collected detailed process evaluation data during the implementation phase, as described in the evaluation section below.

Two cohorts of students undertake placement each year, one cohort per semester. After the first iteration of the reflection and debrief module in June 2016, evaluation data were considered, and an improved version of the module was implemented in December of 2016 for the 15 students completing placement in Semester 2. For the small group session, these 15 students were divided into 1 group of 7 and 1 group of 8 students. Small group facilitators were those who participated in the previous iteration and were provided with a refresher session to train them in the revised protocol. The large group session of the debrief was again facilitated by the project officer who was previously unknown to these students. Evaluation data were collected and analysed. Further adjustments were made to the debrief protocol based on staff and student evaluations. In June of 2017, 27 students attended the third iteration of the reflection and debrief module. In session 1 these 27 students were divided into 3 groups of 9 students each, using the same allocation principles as previously. The same facilitators received refresher training along with a university academic dietitian (not directly involved in placements) who was trained in the protocol. Small group discussions went for 60 minutes and the large group session for 45 minutes. This large group session was facilitated by the senior academic responsible for the hospital placement (LR).

### *12.5.2 Method for Evaluation of the Debrief*

The evaluation framework and process, impact and outcome evaluation tools were developed at the time of planning. The debrief was evaluated by the project officer using a mixed methods approach that included quantitative and qualitative data. The quantitative data were analysed using descriptive statistics in SPSS version 22, and the qualitative data were thematically analysed. Detailed process evaluation data

were collected for the first iteration of the reflection and debrief. Student satisfaction with programme materials and delivery was assessed at the end of the module via an online survey. The survey had three items, consisting of one 5-point Likert item relating to usefulness, another relating to engagement and one open-ended item. Transcripts of focus group discussions held with students at the end of the post-placement week to explore their experiences of the entire workshop were examined, and comments relevant to the reflection and debrief module were noted. Data were also collected from group facilitators in individual interviews and surveys. The small group facilitators completed qualitative surveys about their opinion on the process of the debrief, critical incidents recalled, student learning outcomes and usefulness of the session. An implementation record and reflection document were kept by the project officer, who observed session 1 and conducted session 2. After programme redevelopment, process evaluation data were kept on the second iteration in terms of student satisfaction. Given the minor nature of the changes for the third iteration, only some process evaluation data were collected to reduce participant burden. Implementation feasibility was assessed at all three time-points.

Impact evaluation data from four sources were collected to measure whether the educational goal of learning integration had been attained. Students were required to submit an anonymous written reflection of their learning immediately after participation in the small group discussion component of the reflection and debrief. Four items explored the influence of the debrief on their perceptions of placement, learnings as a clinical dietitian, identification of any personal skills and attributes and perception of the hospital environment as their future workplace. Answers to the open-ended reflection questions were inductively coded into themes (Braun & Clarke, 2006), with the research question of whether students perceived a benefit from the reflective debrief and whether it changed their professional learning plans. Student notes from the small group discussion session were collected by the project officer and a record made of the whiteboard summary of the discussion in the large group session. For themes captured during the debrief, the themes created by students (small group summaries) and synthesised by the facilitator (large group themes) were inductively coded and then deductively recoded into subthemes (Braun & Clarke, 2006) related to dietetic professional attributes and experiences to investigate student learning. The subthemes produced were reviewed by all co-researchers to enhance rigour.

## 12.6 Evaluation Results for the Hospital Reflection and Debrief

The process and impact evaluation data are presented in the section that follows. The results are presented for each iteration of the hospital reflection and debrief module. Qualitative data and integrative comments are presented separately for each iteration. Given the mixed methods analysis used, the statistical data are enhanced and to some extent explained by the qualitative data expressed in direct quotes.

### 12.6.1 June 2016 Process Evaluation Results of the Reflection and Debrief Module

The student satisfaction scores (see Table 12.2) were not as high as we had hoped for the first iteration of the module. The mean score for 'usefulness' was 2.5 out of 5 and 3.2 for 'interesting and engaging'. However, the item evaluating the hospital placement reflection and debrief asked only about the activity as a whole, so it was difficult to determine whether the students found the small group discussion or the large group discussion equally useful. Qualitative comments varied between individuals, with one student stating that '[the] individual group reflection sessions were good but the one with everyone was a waste of time', while another said '[the] smaller group sessions are probably unnecessary. We could have just had a longer, larger group session'. Transcripts of focus group discussions held at the end of the week to evaluate the entire post-placement week, while not strictly part of this evaluation, added some relevant insights. Discussions revealed that the introduction of a written examination for summative assessment at the beginning of the week had created a negative feeling among the group, which coloured the way in which students perceived the entire week including the reflection and debrief session. This suggested we had not successfully communicated the importance of the workshop activities to the students and that we needed to make a clear demarcation between assessment activities and the reflective debrief.

The small group facilitator evaluation results showed that these facilitators perceived the sessions as useful. They felt that the students reflected well in terms of both positive and negative critical incident hospital experiences. The facilitators observed that students who described having had emotion-provoking experiences (such as a patient having a cardiac arrest in their presence) were able to release some of that emotion and be supported by their peers who described similar experiences. As one facilitator said, 'I should have brought tissues'. One facilitator noted how the reflection and debrief gave students an opportunity to learn from others' experiences:

**Table 12.2** Mean (SD) scores for student satisfaction on a 5-point scale for June 2016, December 2016 and June 2017 versions of the post-placement debrief

| | Mean (SD) usefulness of session (no. of survey respondents total) | | | Mean (SD) interesting and engaging (no. of survey respondents/total) | | |
|---|---|---|---|---|---|---|
| Process evaluation criterion | June 16 (26/31) | Dec 16 (14/15) | June 17 (22/23) | June 16 (26/31) | Dec 16 (14/15) | June 17 (22/23) |
| Debrief about hospital placement (both activities) | 2.5 (1.27) | NA | 3.77 (0.9) | 3.19 (1.39) | NA | NA |
| Small group debrief about hospital placement | NA | 3.18 (0.6) | NA | NA | 4.36 (0.5) | NA |
| Whole group debrief about hospital placement | NA | 2.82 (0.6) | NA | NA | 3.73 (1.47) | NA |

NA = not asked

> … it was very useful in terms of those major things that came out to look after yourself in terms of emotional attachments to patients – having care withdrawn from patients at times when you're looking after them and having to deal with that. A lot of students hadn't come across that before, [the debrief allowed them] to see and hear someone else's experiences.

The small group facilitators felt that the reflective debrief was particularly useful to reveal commonality of the student experience and broaden individual perspectives. Ideas of how to handle patients or experiences that they may not themselves have encountered on placement were perceived as useful. Facilitators felt that students found the application of their university learning in the practice setting to be the main challenge. The small group facilitators described other students as having 'lightbulb moments' during the session where they expressed that they realised that they might have done things differently or might react differently in a similar situation in the future. Despite allocating students to facilitators from whom they had not experienced placement supervision, one questioned whether the students: '…truly opened up'. However, the project officer observed that the clinical teaching knowledge and experience of the clinical educators to be invaluable in guiding students to deeper reflections. The need to reflect on positive as well as negative experiences emerged as a subtheme under the learning process, where this facilitator described it as:

> … a lovely safe environment where students opened up and could voice their reflection and experience positive or otherwise.

The large group facilitator found that it was difficult to draw responses out of the group initially, and some did not participate, but that the summary produced by those who did participate appeared effective. Themes collected on the whiteboard synthesised the four themes arising from the small group discussions. Emerging from the data was the significant role played by dietitian supervisors on placement in shaping the student experience. Several negative impacts were described by students, but there was also recognition of the importance of supervision to developing as a practitioner. By synthesising the small group learning and linking it to dietetic practice, the large group facilitator emphasised what students had achieved and learned in the small group discussions. This synthesis served both to reinforce learning and to expose small groups to the broader range of themes in order to be able to place their personal experience in context.

In terms of implementation feasibility, the teaching team met regularly to revise the post-placement week programme and material. It was imperative to have a project officer who was employed in addition to the usual academic team to drive the initial changes. While the academic team were interested in the activities, they did not feel they had the capacity to introduce the new initiatives themselves and took little ownership of the activity in the early stages. It was also apparent that the available meeting times were of insufficient length for the detailed consideration of all the results. Several decisions about the development of the module were therefore made by the project officer and the programme director, based on the process evaluation data presented and the impact evaluation data described in the next section.

### 12.6.2 June 2016 Impact Evaluation: What Did the Students Learn from the Reflection and Debrief?

The critical incidents that the students chose to discuss during the small group debrief fell into four main themes, as shown in Table 12.3: self-management, professional identity formation, the learning process and performing dietetic work in the hospital environment. Direct quotes are not available due to the deliberate lack of audio recording. This proved to be a good decision given that several, during the session, students verbally checked that it was not being recorded.

The first theme, self-management, related to the need for students to manage their emotions in the stressful environment of a hospital placement. The high-stakes nature of being assessed on placement created stress, and some students reported being able to draw on personal reserves of resilience to manage their emotions. The second theme revealed that the experiential learning environment helped students develop their professional identity in terms of being part of a team delivering patient care. They began to develop a sense that they could make a useful contribution to patient outcomes and began to assume that sense of responsibility. In the third theme, the learning process, students described the challenge of adapting to learning within a new environment. Their learning came from supervisors, personal reflection and the challenge of the hospital situation. Students described the process of supervision as making both positive and negative contributions to their learning.

**Table 12.3** Key themes noted by students as arising from their small group discussion

| Theme | Subthemes |
|---|---|
| 1. Self-management | 1.1 Emotional toll: managing emotions, feeling overwhelmed, situational stress |
| | 1.2 Inner strength: confidence, resilience, handling conflict, motivation, persistence |
| | 1.3 Self-care: seeking support, seeking balance, conscious of own health |
| 2. Professional identity formation | 2.1 Feeling like part of the treating team |
| | 2.2 Taking responsibility, making a difference to patients |
| | 2.3 Shifting from student to health professional |
| 3. The learning process | 3.1 Learning from supervisors: taking feedback/dealing with negative feedback, acting on feedback, need to clarify expectations |
| | 3.2 Learning about yourself: reflection, learning about yourself, need to feel reassured, defining goals |
| | 3.3 Situational learning: adaptation/being flexible in response to change, being outside comfort zone/jumping in the deep end, learning on the job, steep learning curve, differences between placement sites |
| 4. Performing dietetic work in the hospital environment | 4.1 Teamwork: working in a team with other professionals |
| | 4.2 Communication: need for clear communication; challenges communicating with patients and family/clarification/raise issues early/dealing with conflict, documentation |
| | 4.3 Acute environment: patient safety, hospital environment |

Several students recalled inconsistencies between supervisors' feedbacks, both within and across placement sites, as a source of stress. Receiving constructive feedback was felt to be important for learning. Some critical incidents reflected upon the need to adapt quickly and expressed a sense of being confronted by challenge. The final theme related to key features of performing dietetic work in the hospital environment, including the interactions involved in working within a health professional team and the need for clear communication. Students expressed the view that dealing with conflict and communication difficulties was key aspect of the work of an APD in a hospital environment. The critical incident approach revealed the central importance of communication to dietetic practice, for instance, the need to be able to draw on detailed clinical notes when something has gone wrong in patient care. Underlying all these themes is the sense that students are transformed by the hospital placement experience, in ways that might be positive or negative. In the second iteration of the module in December 2016, some new subthemes were added including the 'medical team not taking you seriously' and 'death and dying' of the patient being added to theme four. For the third iteration, no new themes or subthemes were added, but there was one additional code under the subtheme 3.1, about the supervisory relationship, with one student feeling that their supervisor was 'micro-managing' their supervision.

### *12.6.3 Themes from the Documented Reflections by Individuals*

Twenty-one of the 31 participants completed the anonymous debrief reflection questions immediately following the small group session. In response to the first question, which was about whether the reflection or debrief had changed how they viewed placement, 8/21 described the debrief as not changing their view of hospital placement: 'It hasn't, because I had an enjoyable experience'. Other students described the module as useful to 'know that others had similar experience'. For some, their perspective of placement changed, as a result of the module, to be more positive through obtaining information and ideas about how to cope better in hospitals in the future. Two students noted that negative discrepancies and differences between placements had given them a negative perspective on placement. Student learning about themselves as a clinical dietitian, varied. While five students said they found nothing new, many others had discovered aspects that were in alignment with the goals of the reflection and debrief. Students recognised shared experiences with others. In response to the question about what specific skills or attributes they were now able to identify in themselves, some students found they were good at reflective practice, and others recognised their own adaptability or an ability to see the positives. Some identified clinical skills in themselves, such as good rapport and negotiation skills. Some students recognised that they were more confident than they had realised and others that they had good clinical reasoning. Others found

areas they needed to improve to be able to work in a hospital, such as being more assertive. The final reflection question asked about how well-suited they thought they were to hospital work. The majority responded they were quite or very well-suited to the hospital environment. Three students were not interested in working in this environment and thought there were other areas to which they were better suited.

Nine of the 15 students in the third iteration completed the anonymous reflective survey. As for the first iteration, most students felt it was useful to learn about the experiences of others, although one student was surprised by the amount of negative comments about placement. The learnings in this group were similar to those expressed by the first cohort in that they discovered that having doubts about their confidence at the outset of placement was common. In response to Q3 as to what specific skills or attributes students were now able to identify in themselves, three students identified *confidence*, two said *communication*, and two others said *resilience or adaptability.* Interestingly, one student noted that they had discovered they did not need to discuss their experiences. Following the debrief, all but one student considered that they were suited to working in a hospital environment. Students in the third iteration of the module reported having developed resilience and felt that the placement had made them more aware and better prepared for the possible challenges ahead in working as a clinical dietitian. Students felt their experiences had made them stronger and more empowered to move forward and were feeling very positive about working in the role of clinical dietitian. None felt they were unsuited to working in the hospital environment.

### *12.6.4 Changes Made to the Post-practicum Intervention as a Result of June 2016 Evaluation*

According to design-based research principles (Edelson, 2002), we considered the June 2016 group facilitator and student feedback and reported impact on student learning in the redesign of the post-placement week before implementing the module again in December of 2016. Several key changes were made as a result. One of the most important changes was to improve our communication with the student body regarding the purpose of the activities in post-placement weeks. Communication of these messages began prior to the students commencing placement and continued throughout the 20-week placement programme in the lead up to post-placement week. We made a dedicated effort to strongly promote the importance of the programme to students so they understood that the reflection and debrief module were for their personal and career benefit and had nothing to do with any assessment processes. To further separate the post-practicum learning experiences from assessment, the examinations were redesigned from a pencil and paper format to a practice-based case study presentation. This was designed to reduce student stress around the examination and, hopefully, ameliorate the associated negativity.

For the small group sessions, only experienced clinical educators and supervisors were engaged as facilitators due to their ability to draw detailed examples from the groups. To ensure that sufficient time was provided to discuss each issue raised by students, small group discussions were increased in duration from 45 to 60 min, and only one critical incident was required of each participant. To encourage free sharing, students who were on placement in pairs were placed into separate groups for the small group discussions, where possible, and the importance of confidentiality was further emphasised. The large group discussion session time was decreased from 45 to 30 min and held in a smaller more intimate tutorial room, rather than a lecture theatre, to make discussions less formal. To support students to process any emotional reactions to the reflection and debrief, a university counsellor drop-in session was organised for immediately after the large group discussion. A final change was the creation of evaluation items to assess individually the small-group and large-group components of the hospital experience reflection and debrief on the survey.

### *12.6.5 December 2016 Process Evaluation of the Module and Subsequent Changes*

Improvements to the session content and communication around the purpose of these activities resulted in much higher mean satisfaction scores, increasing from 2.5 to 3 for 'usefulness' and from 3.2 to 4.0 for 'interesting and engaging' (Table 12.2). The change to the evaluation items to reflect each part of the debrief activity showed that the majority of students found the small group section of the activity more interesting and more useful than the large group session. The qualitative comments reflected this positivity. One participant said 'I enjoyed these sessions and found them very helpful', while another remarked that the 'small group debrief was a good number of students to reflect with'. The December 2016 cohort was much smaller, and there were only two facilitators, both of whom were clinical educators. While there was only time to share one critical incident, one facilitator noted that students often wanted to share both a positive and a negative incident. The facilitators again observed a sense of commonality among students, but this cohort tended to view things in a more positive way. As one facilitator reported:

> The second time that I facilitated, the group spent a lot more time discussing all the difficult or negative aspects of placement, however I didn't feel the need to step in and re-direct or facilitate them to reflect on more positive experiences. I felt more confidence in using empathetic phrases and general questions … which then … resulted in the group being able to put their experiences into perspective, comfort each other and in each instance [they] were always able to get around to reflecting on the positives or 'silver linings' on their own.

The large group facilitator considered the cohort to be more comfortable and less stressed and noted that they appeared more interested in participating than the previous cohort. This may reflect the assessment changes made in response to Semester

1, 2016 feedback or the fact that this was a smaller group in a smaller room, possibly more open to sharing emotionally than the previous cohort group. After this second implementation, we made some minor refinements prior to implementation on June 1, 2017. The total time for the session was extended from 90 to 105 min to allow sufficient time for discussion. For the small group session, the briefing paper for the group facilitators was streamlined to improve flow and to provide options/examples to help probe/prompt students if needed. This version of the module was still organised and facilitated by the project officer. However, staff were becoming more engaged through facilitating the small group discussion. However, the activity was still perceived as belonging to a special project rather than the programme.

### *12.6.6 June 2017 Process Evaluation of the Module and Final Changes*

Organisationally, the project officer completed her role, and in the future the senior academic dietitian responsible for coordinating hospital placement will be responsible for the reflection and debrief. Students in this post-placement cohort were satisfied with the session, reflected in the evaluation scores. The 'usefulness' rating increased from a mean score of 3.0 to 3.8, approaching 'very useful' (4.0). Only two students reported the activity as 'not useful', showing a more consistent positive score than for previous implementation rounds. Qualitative comments were all positive in tone, as highlighted by the following examples:

> A great idea to have included which helped me to identify that my situation was not whole (sic) reflective of myself, but that of the hospital …
>
> It was a safe space to share information with peers
>
> It was a very helpful way to normalize some of the experiences that I had on placement by hearing everyone else's experiences.

The small group facilitators found the process useful and felt it worked well with an appropriate number of participants in each group. They found the students to be emotionally strong and very insightful regarding their experiences on placement. They felt the students approached the sessions with an unexpected level of maturity and that, despite raising of negative experiences initially, as a group, they were very reflective and supportive of each other and able to highlight the positive outcomes and opportunities for learning and growth. The small group facilitators found that the main critical incidents raised related to students not feeling respected by busy supervisors, feeling that supervisors were over critical and being supervised by multiple supervisors. These facilitators reported that the students had good insight into the need to manage the expectations of their supervisors, as well as coping with their own drop-in confidence and the need to rebuild it.

The large group facilitator found that students believed that sharing experiences had helped to put their own experiences into perspective and hearing the experiences of others had made them feel 'normal' and no longer blame themselves for any negative experiences. Students drew on the positives, and, although they obviously found the hospital placement challenging, their experiences helped them to learn and to grow. The debrief activity was by now seen as a feasible and important part of the post-placement curriculum. After this iteration, the only changes made to the protocol were that time for students to complete the written reflection was added into the time allocation for the small group session.

## 12.7 Discussion

Evaluation of the reflection and debrief module developed for this project demonstrated how students can be assisted to process learning experiences undertaken in the challenging environment of acute hospital care. The dietetic students participating in this reflection and debrief were interested in reflecting on their own experiences and in hearing about the practicum experience of their peers, providing that they could learn something from the experience themselves. This qualified acceptance of the activity is reflected in the findings of a study of health professional student preferences for post-practicum intervention strategies (Cain et al. 2018). The findings of that survey showed that the proportion of nursing and midwifery students (33%) who reported to be very interested in the 'opportunity to share and discuss with peers' was higher than for allied health students (including dietitians) (25%) or students of medicine (9.5%) (Cain et al., 2018).

Kolb and Kolb (2005) have summarised the need for reflection in higher education. Reflection is needed for many learning styles and assists in consolidation and integration of experiential learning experiences (Kolb & Kolb, 2005). Healthcare students undertake experiential learning in long periods of work-based learning. The reflective debrief was undertaken with the aim to enhance student learning in this setting. Using a university-based reflection gives all students an equitable opportunity to ensure that they undertake reflection. Trede and Smith (2012) have found that the quality of within-placement opportunities for verbal guided reflection may depend on the student's placement supervisor. Given that negative student experiences may be related directly to a supervisory relationship of placement (Lew, Cara, & Richardson, 2007), university-based reflection allows them to be discussed and processed. Other healthcare disciplines have similarly noted the benefit of a guided, reflective, group debrief, including physiotherapy (Delany & Watkin, 2009), nursing (Platzer, Blake, & Ashford, 2002) and occupational therapy students in Australia (Mackenzie, 2002) and the United Kingdom (Nicholls & Mackenzie, 2006).

The reflection and debrief module allowed students to reflect on critical incidents that occurred during their hospital placements and, with the assistance of skilled facilitators, to process those incidents according to specified learning objectives. Facilitators were clinical educators specifically hired to support the acute care train-

ing of healthcare students (Fairbrother, Madelyn, Blackford, Nagarajan, & McAllister, 2016; Ferguson, Haantjens, & Milosavljevic, 2014) and are in regular contact with students on placement and oversee their field-based learning and teaching. Their role gives them knowledge of the hospital setting and a unique perspective of the environment, challenges and perspectives of both clinical supervisors and students which helps them to interpret the students' critical incidents. This background gives the reflective debrief the advantage of having experts guiding and reframing supervisory issues for students to inform and enhance students' future careers. This could assist with retaining graduate healthcare practitioners within the hospital setting and assist them in their own future supervisory relationships and practice. An advantage of conducting the reflection and debrief in the group setting is that students can learn from other students' experiences and reflections, which could be considered a form of peer-assisted learning (Ladyshewsky & Gardner, 2008).

Several students participating in the debrief described incidents arising in the hospital setting that took an emotional toll on them. The nursing profession has used reflective debriefs to enhance new graduate nurses' psychosocial support (Mangone, King, Croft, & Church, 2014) and assist paediatric nurses (Maloney, 2012) to process traumatic experiences and reduce compassion fatigue. When undertaking the dietetic student reflection of acute care experiences, it was important to be cognisant of student emotional well-being as well as reflective learning. As a result of the challenging experiences described by students during the first debrief at our university, the programme director organised a university counsellor to be available for student consultations directly after subsequent debriefs. In this way, the reflective debrief has the potential to assist students do more than enhance their learning; they can also be assisted with resolving emotional experiences through access to support services. One small group reflection for medical residents described in the literature was considered a wellness initiative (Wen et al., 2013). The potential to enhance emotional wellness requires future investigation with respect to dietetic and other healthcare students.

The design-based research approach applied by the academic team to the programme curriculum proved useful. Despite the extensive research undertaken by the project officer and the careful theoretical framework applied to planning the reflection and debrief, the first iteration did not score as highly as we had hoped in terms of student satisfaction. Careful and detailed evaluation revealed possible explanations for this and guided the redevelopment for the second iteration of the module. The student-informed redevelopment of the module led to higher student satisfaction and more positive comments the second time the module was implemented. Qualitative comments in the third implementation were more positive and student satisfaction even higher again, despite fewer programmatic changes, suggesting that something else may have influenced these results. The first two versions of the module, conducted in 2016, were delivered to students who commenced their four-year degree in 2013. Students undertaking the third version of the module in 2017 commenced their degree in 2014, which saw several changes to the entire programme

curriculum – so that these students experienced a significantly different degree structure and content. The maturity and resilience of the third iteration students observed by the small group facilitators may have been a result of these curriculum changes. Or perhaps this reflects an exceptional group of students. Another potential explanation is that this large group session was conducted by the clinical dietetic lecturer, which may have changed the process. Perhaps this facilitator was more able to draw out positive emotional themes, or, alternatively, students were less willing to share negative experiences with her. Module evaluation for subsequent cohorts will indicate which explanation is most likely.

Several key lessons were learned by the nutrition and dietetic team through the process of conducting this project. The first lesson was that developing even a short intervention in an evidence-based way requires significant dedicated resources. Given the team was short-staffed at the time, the project would not have been conducted, or conducted to the same level of quality, had we not had the funds to employ a project officer. We were very fortunate in our choice of project officer, given her high-level abilities, persuasive manner and the fact that she spent a lot of time in consultation with key academics. A second lesson was to avoid introducing or changing assessment at the same time as introducing another new initiative. The introduction of a final exam into the post-placement week generated resentment within the first cohort of students, masking the potential for the reflection and debriefing module to be successful. Students saw that module as another form of assessment, rather than recognising the benefit to them. This highlighted the importance of clearly communicating to students, who are in the process of transitioning to being professionals, the difference between doing something because it is assessable or compulsory and doing something that will enhance learning for their future career. Finally, the evaluation data highlighted the importance of obtaining both quantitative and qualitative feedback on new activities being introduced and the need to measure each component of a new activity separately. Qualitative interviews with key stakeholders in implementing the module proved vital to interpreting the quantitative data. It was also important not to abandon the module after the first attempt but to persevere with improving it, based on feedback.

The critical incidents discussed highlight other actions that need to be undertaken. Future training programmes will feedback these results to fieldwork supervisors. It may surprise some supervisors to hear the negative ways in which students perceive what may be intended as constructive feedback. We can also work to assist students in managing their emotions and improving their resilience prior to undertaking placement and in fact have already undertaken steps to do this by introducing a pre-placement session with a university counsellor on building resilience. Facilitating this learning requires great skill and requires the facilitators to be experienced in the hospital placement. We will also use the qualitative themes to brief the students better about the types of learning experiences they might expect prior to placement.

## 12.8 Conclusion

The current workforce profile in Australian dietetics sees hundreds of new graduates competing for each advertised position in the hospital sector, which is still the major employer (Health Workforce Australia, 2014). The ability of final-year dietetic students to reflect on their practice has been found to be important in developing the critical thinking and clinical reasoning that is essential for success in the hospital setting (Palermo, Walker, Brown, & Zogi, 2009). Skills in reflective learning, therefore, have the potential to provide graduates with an 'edge' in obtaining these highly contested positions and making a successful transition to the hospital workforce. The theoretical framework and design-based research approach taken by the nutrition and dietetic team at Griffith University achieved the development of a module aimed at encouraging final-year student dietitians to reflect critically on incidents occurring in their placement experience, in a safe, expert-guided environment. The critical incidents described provide insights on the nature of how the hospital placement is experienced by students in a transformational environment and were used to guide curriculum redevelopment. Successive iterations of the module showed stepped improvements in student satisfaction. The third version of the reflection and debrief is now seen as a key component of the post-placement week and is embedded in the programme curriculum. Now that the programme is stable, the next step is to proceed to outcome evaluation and measure how the activity influences graduate career employability.

**Acknowledgements** Thank you to Marie-Claire O'Shea who did some of the original work on this project. We also thank the students and group facilitators for the time taken to contribute to the evaluation surveys.

## References

Anderson, L. W., Krathwohl, D. R., Airasian, P. W., Cruikshank, K. A., Mayer, R. E., Pintrich, P. R., et al. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. New York: Pearson, Allyn & Bacon.

Andrews, G., Brodie, D. A., Andrews, J. P., Hillan, E., Thomas, B. G., Wong, J., et al. (2006). Professional roles and communications in clinical placements: A qualitative study of nursing students' perceptions and some models for practice. *International Journal of Nursing Studies, 43*, 861–874.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology, 52*, 1–26.

Benner, P. (1984). *From novice to expert: Excellence and power in clinical nursing practice*. Menlo Park, CA: Addison Wesley.

Billett, S. (2008). Learning throughout working life: A relational interdependence between social and individual agency. *British Journal of Education Studies, 55*(1), 39–58.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Burton, S. (2000). A critical essay on professional development in dietetics through a process of reflection and clinical supervision. *Journal of Human Nutrition and Dietetics, 13*(5), 323–332.

Cain, M., Le, A. H., & Billett, S. (2018). Ch 2: Sharing stories and building resilience: Student preferences and processes of post-practicum interventions. In *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. New York: Springer.

Christiansen, S., Buus Bøje, R., & Frederiksen, K. (2015). The use of problem-and simulation-based learning: The student's perspective. *Nordic Journal of Nursing Research, 35*(3), 186–192.

Delany, C., & Golding, C. (2014). Teaching clinical reasoning by making thinking visible: An action research project with allied health clinical educators. *BMC Medical Education, 14*(1), 1.

Delany, C., & Watkin, D. (2009). A study of critical reflection in health professional education: 'Learning where others are coming from'. *Advances in Health Sciences Education, 14*(3), 411–429. https://doi.org/10.1007/s10459-008-9128-0

Di Prospero, L., & Bhimji-Hewitt, S. (2011). Learning is in the facilitation: Faculty perspectives with facilitated teaching and learning—Recommendations from informal discussions. *Journal of Allied Health, 40*(4), 61E–65E.

Dietitians Association of Australia. (2015a). *National competency standards for dietitians in Australia*. URL: https://daa.asn.au/wp-content/uploads/2017/01/NCS-Dietitians-Australia-with-guide-1.0.pdf (20 October 2017).

Dietitians Association of Australia. (2015b). *Preparing for the DAA professional examinations in dietetics: Guide to mentoring and continuing professional development for dietetic skills recognition candidates* (pp. 1–31). URL: https://daa.asn.au/wp-content/uploads/2016/06/Guide-to-Mentoring-CPD-2016.pdf (July 2017).

Dowding, K., Ash, S., & Shakespeare-Finch. (2011). Using critical incident interviews to identify the mental health knowledge, skills and attitudes of entry-level dietitians. *Nutrition & Dietetics, 68*, 297–304.

Dreifuerst, K. T. (2012). Using debriefing for meaningful learning to foster development of clinical reasoning in simulation. *Journal of Nursing Education, 51*(6), 326–333.

Dugan, J. P., Turman, N. T., & Barnes, A. C. (2017). Ch 1: Our evolving understanding of leadership. In *Leadership theory: A facilitators guide for cultivating critical perspectives*. San Francisco: Jossey-Bass.

Dunn, W. R., & Hamilton, D. D. (1986). The critical incident technique–a brief guide. *Medical Teacher, 8*(3), 207–215.

Dyment, J. E., & O'Connell, T. S. (2011). Assessing the quality of reflection in student journals: A review of the research. *Teaching in Higher Education, 16*(1), 81–97.

Edelson, D. C. (2002). Design research: What we learn when we engage in design. *Journal of the Learning Sciences, 11*, 105–121.

Fairbrother, M., Madelyn, N., Blackford, J., Nagarajan, S. V., & McAllister, L. (2016). A new model of clinical education to increase student placement availability: The capacity development facilitator model. *Asia-Pacific Journal of Cooperative Education, 17*(1), 45–59.

Feather, A., & Fry, H. (2008). Chapter 23: Key aspects in teaching and learning in medicine and dentistry. In H. Fry, S. Ketteridge, & S. Marshall (Eds.), *A handbook for teaching and learning in higher education: Enhancing academic practice (3e)*. London: Kogan Page.

Ferguson, A., Haantjens, A., & Milosavljevic, M. (2014). Evolution of the clinical educator role to increase student placement capacity: From traditional to innovative. *Nutrition & Dietetics, 71*, 51–56.

Findlay, N., Dempsey, S., & Warren-Forward, H. (2011). Development and validation of reflective inventories: Assisting radiation therapists with reflective practice. *Journal of Radiotherapy in Practice, 10*(1), 3–12.

Health Workforce Australia. (2014). Australia's health workforce series – Dietitians in focus. *Canadian Journal of Dietetic Practice and Research, 75*(4), 173–179.

James, A., & Chapman, Y. (2010). Preceptors and patients – The power of two: Nursing student experiences on their first acute clinical placement. *Contemporary Nurse, 34*(1), 34–47. https://doi.org/10.5172/conu.2009.34.1.034

Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning & Education, 4*(2), 193–212.

Ladyshewsky, R. K., & Gardner, P. (2008). Peer assisted learning and blogging: A strategy to promote reflective practice during clinical fieldwork. *Australasian Journal of Educational Technology, 24*(3), 241–257.

Lew, N., Cara, E., & Richardson, P. (2007). When fieldwork takes a detour. *Journal Occupational Therapy In Health Care, 21*(1-2), 105–122.

Lewis, A. V. (2013). Reflective practice: What is it and how do I do it? *Journal of Clinical Practice in Speech-Language Pathology, 15*(2), 70–74.

Macdonald, J., & Tighe, B. (2014). Student dietitians' experiences of patient death whilst on placement. *European Journal of Nutrition & Food Safety, 4*(3), 181–182.

Mackenzie, L. (2002). Briefing and debriefing of student fieldwork experiences: Exploring concerns and reflecting on practice. *Australian Journal of Occupational Therapy, 49*(2), 82–92.

Maloney, C. (2012). Critical incident stress debriefing and pediatric nurses: An approach to support the work environment and mitigate negative consequences. *Pediatric Nursing, 38*(2), 110–113.

Mangone, N., King, J., Croft, T., & Church, J. (2014). Group debriefing: An approach to psychosocial support for new graduate registered nurses and trainee enrolled nurses. *Contemporary Nurse, 20*(2), 248–257.

Mann, K., Gordon, J., & Macleod, A. (2009). Reflective practice in health professions education: A systematic review. *Advances in Health Science Education, 14*, 595–621.

Marquis, M., & Gayraud, H. (2002). Exploring clinical dietitians' day-to-day practice through the critical incident technique. *Journal of the American Dietetic Association, 102*(10), 1461–1465.

McGuire, L., Lay, K., & Peters, J. (2009). Pedagogy of reflective writing in professional education. *Journal of the Scholarship of Teaching and Learning, 9*(1), 93–107.

Moore, G. F., Audrey, S., Barker, M., Bond, L., Bonell, C., Hardeman, W., et al. (2015). Process evaluation of complex interventions: Medical Research Council guidance. *BMJ, 350*, h1258. https://doi.org/10.1136/bmj.h1258

Neill, M. A., & Wotton, K. (2011). High-fidelity simulation debriefing in nursing education: A literature review. *Clinical Simulation in Nursing, 7*, e161–e168.

Nicholls, L., & Mackenzie, A. (2006). Ch 13. Transforming experience into learning: Briefing and debriefing for practice learning. In T. Lorezono, M. Duncan, H. Buchanan, & A. Alsop (Eds.), *Practice and service learning in occupational therapy: Enhancing potential in context* (pp. 187–199). Brisbane, Australia: John Wiley & Sons.

Osland, E. J. (2015). An investigation into the professional quality of life of dietitians working in acute care caseloads: Are we doing enough to look after our own. *Journal of Human Nutrition and Dietetics, 28*(5), 493–501.

Palermo, C., Walker, K. Z., Brown, T., & Zogi, M. (2009). How dietetics students like to learn: Implications for curriculum planners. *Nutrition & Dietetics, 66*(2), 108–112.

Pearson and Smith cited in Mackenzie, L. (2002), Briefing and debriefing of student fieldwork experiences: Exploring concerns and reflecting on practice. *Australian Occupational Therapy Journal*, *49,* 82–92.

Platzer, H., Blake, D., & Ashford, D. (2002). An evaluation of process and outcomes from learning through reflective practice groups on a postregistration nursing course. *Journal of Advanced Nursing*. 2000*, 31*(3), 689–695.

Quinton, S., & Smallbone, T. (2010). Feeding forward: Using feedback to promote student reflection and learning–a teaching model. *Innovations in Education and Teaching International, 47*(1), 125–135.

Roh, Y. S., Kelly, M., & Ha, E. H. (2016). Comparison of instructor-led versus peer-led debriefing in nursing student. *Nursing and Health Sciences, 18*, 238–245.

Ross, L. J., Mitchell, L. J., & Williams, L. T. (2017). Is it possible to enhance the confidence of student dietitians prior to professional placements? A Design –based research model. *Journal of Human Nutrition and Dietetics*. https://doi.org/10.1111/jhn.12479. [Epub ahead of print].

Solomon, P. (2011). Student perspectives on patient educators as facilitators of interprofessional education. *Medical Teacher, 33*(10), 851–853. https://doi.org/10.3109/0142159X.2010.530703

Thomas, J., Jack, B. A., & Jinks, A. M. (2012). Resilience to care: A systematic review and meta-synthesis of the qualitative literature concerning the experiences of student nurses in adult hospital settings in the UK. *Nurse Education Today., 32*, 657–664.

Tighe, B., & Mainwaring, J. (2013). The bioethical experiences of student dietitians on their final clinical placement. *Journal of Human Nutrition and Dietetics, 26*(2), 198–203.

Trede, F., & Smith, M. (2012). Teaching reflective practice in practice settings: Students' perceptions of their clinical educators. *Teaching in Higher Education, 17*(5), 615–627.

van den Akker, J., Gravemeijer, K., McKenney, S., & Nieveen, N. (n.d.) *Educational Design Research*. Netherlands Organization for Scientific Research, Program Council for Educational Research (NWO/PROO); 1–245. URL: http://international.slo.nl/publications/edr/

Wen, L. S., Baca, J. T., O'Malley, P., Bhatia, K., Peak, D., & Takayesu, J. K. (2013). Implementation of small-group reflection rounds at an emergency medicine residency program. *Journal of the Canadian Association of Emergency Physicians, 15*(3), 175–177.

Wetmore, A. O. K., Boyd, L. D., Bowen, D. M., & Pattillo, R. E. (2010). Reflective blogs in clinical education to promote critical thinking in dental hygiene students. *Journal of Dental Education, 74*(12), 1337–1350.

Wright, L., & Lundy, M. (2012). Blogging as a tool to promote reflection among dietetic and physical therapy students during a multidisciplinary international service-learning experience. *Journal of Allied Health, 41*(3), 73E–78E.

# Chapter 13
# Enhancing Feedback Literacy in the Workplace: A Learner-Centred Approach


**Christy Noble, Christine Sly, Leigh Collier, Lyn Armit, Joanne Hilder, and Elizabeth Molloy**

## 13.1 Introduction

This chapter discusses the development, implementation and evaluation of a learning intervention designed to enhance students' feedback literacy in the workplace. Healthcare students want more feedback during their placements. Students' roles in feedback processes tend to be overlooked with most learning interventions focusing on professional development of educators, that is, how to 'deliver' feedback better (Carless et al., 2011). Addressing the student's role in feedback, as seeker, processer and user of performance information, offers an opportunity to improve feedback experiences in placements and beyond. The learning intervention aimed to augment students' feedback literacy and their engagement during and after their clinical placements at a teaching hospital.

Informed by the learner-centred feedback model, Feedback Mark 2 (Boud and Molloy, 2013a, 2013b), the multifaceted intervention, included an online primer, workshop and reflective activities, aimed to (1) support students' self-evaluation of their performance during their placement, (2) encourage students to seek and receive feedback from their clinical supervisors and peers in order to make comparisons between internally and externally derived feedback and (3) use these comparisons to generate a plan for improved placement work. The intervention, performed 3

C. Noble (✉)
Gold Coast Health, Southport, Australia

Griffith University, Mount Gravatt, Australia

University of Queensland, Brisbane, Australia

C. Sly · L. Collier · L. Armit · J. Hilder
Gold Coast Health, Southport, Australia

E. Molloy
University of Melbourne, Melbourne, Australia



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_13

times with 105 students, was evaluated using 2 surveys and one-off interviews (n = 28).

Students were highly satisfied with their intervention experiences and reported an enhanced understanding of the features of, and their role in, feedback processes. Moreover, students reported being more actively engaged in feedback processes during their placement. They attributed these changes in their approach to feedback to feeling more confident and empowered to ask for feedback to improve their performance. These findings suggest that enhancing learning on the job through student engagement in feedback needs to begin before placement, be enacted during placement and be consolidated following placement. This vertical reinforcement may occur through activities that support feedback as a learning mechanism. Central to effective feedback engagement is planning for subsequent learning; thus, placement experiences and active feedback engagement will support students post-placement to plan and integrate further university-based learnings, that is, feed forward, to augment their performance.

## 13.2 Background

Effective feedback is central to student learning (Hattie & Timperley, 2007). Students want and value feedback during their workplace experiences, e.g. placements, and, particularly, value feedback from practitioners (Billett, Cain, & Le, 2016). Despite intentions and efforts to improve feedback processes in clinical practice, for example, through supporting development of supervisory skills including feedback provision (Steinert et al., 2006), students remain dissatisfied with feedback processes, and this dissatisfaction seems to be regardless of their learning context, e.g. university, placement (Winstone, Nash, Parker, & Rowntree, 2017).

An often overlooked consideration when addressing this conundrum is that strategies adopted tend to focus on developing clinical supervisors' and/or educators' capacities to provide feedback, e.g. through improved theoretical understandings, and the development of procedural and dispositional abilities. In these ways, the student role is often portrayed and/or enacted as one with limited opportunities to engage in the feedback processes, that is, a passive role whereby feedback is given to them (Molloy, 2009). Feedback in this instance becomes a *telling*, that is, a system of inputs and outputs (Boud & Molloy, 2013a).

Emerging evidence and contemporary feedback theories argue that effective feedback is a complex process requiring active engagement of learners and supervisors (Boud & Molloy, 2013a). Learners need to self-evaluate their performance during placement, seek and receive feedback from clinical supervisors, make comparisons between internally and externally derived feedback and use these comparisons to generate a plan for improved placement work (Boud & Molloy, 2013a). This approach to feedback promotes active learner engagement and encourages learners to draw on a range of alternative sources to inform their learning. Moreover, through engagement in feedback, learners' self-evaluation is likely to be enhanced

(Boud & Molloy, 2013a). Thus, effective feedback processes require *both* learner and supervisor engagement.

These perspectives present new opportunities for augmenting effective feedback processes in the workplace. Research from higher education sector suggests that learner-centred feedback is an emerging field with few studies conducted to support student engagement in feedback processes, that is, strategies to support students' agentic engagement with feedback processes (Winstone et al., 2017). Moreover, to our knowledge, no studies aiming to augment students' feedback engagement during placements through enhancing feedback literacy have been conducted.

It is challenging for students to engage in feedback. A UK interview study has identified some barriers to student feedback engagement in higher education (Winstone, Nash, Rowntree, & Parker, 2016). Firstly, students often lack awareness of the purpose and meaning of feedback they received. Secondly, students lack cognisance of strategies for implementing feedback. Thirdly, students believe they lack agency to implement strategies. Finally, students often lack volition to use the feedback they received. The authors argue that to improve feedback processes, these barriers should be removed by addressing the psychological processes underlying these barriers. Although these recommendations are important, they are limited to developing student engagement in discreet feedback episodes rather than promoting an overall understanding of feedback processes, that is, developing students' feedback literacy (Parker & Winstone, 2016; Winstone et al., 2017; Winstone et al., 2016).

Feedback literacy, based on the definition of assessment literacy (Smith, Worsfold, Davies, Fisher & McPhail, 2013), might be defined as students' ability to understand the purpose and processes of feedback, to accurately self-evaluate their own work and, through collaboration with others, generate and enact a plan for improvement. Similar approaches augmenting assessment literacy have been successfully used; for example, developing students' understanding of assessment criteria and processes contributes to significant improvement in learning (Rust, Price & O'Donovan, 2003). Rust et al. (2003) found that these improvements were sustained over time with potential to transfer to other contexts.

In this section, the concept of feedback literacy and strategies for enhancing student engagement in contemporary higher education have been discussed. Given that students are increasingly expected to engage in work-based learning activities, i.e. placements, it is also important to understand how learner engagement in workplace feedback can be fostered.

### *13.2.1 Feedback in the Workplace*

Students' experiences of engaging in feedback in the workplace, that is, whilst on placements, are likely to be more challenging than in higher education. Firstly, they are working and learning in unfamiliar settings whilst being expected to meet the course and assessment requirements. Indeed, students report that feedback occurs

infrequently, and when it does occur, they find it difficult to respond to it (Jackson, 2015; Smith, Ferns & Russell, 2014).

How students are invited to engage in feedback in clinical settings, secondly, can hamper their contributions to the process. For example, clinical supervisors often adopt a one-way, diagnostician approach to feedback provisions. This approach, whilst understandable in a busy clinical setting, makes it challenging for students to engage in feedback dialogue (Molloy, 2009). Indeed, feedback observation studies indicate that students' contribution to feedback conversations is limited to approximately 5% of the time, with the remainder being used by the supervisor (Molloy, 2009).

Thirdly, effective feedback is enabled when a trusting relationship has been established between student and placement supervisor (Telio, Ajjawi & Regehr, 2015). Students are repeatedly entering new practice settings and as 'outsiders' are having to establish relationships with patients, staff and supervisors. Moreover, the diverse range of feedback providers including patients, peers, supervisors and co-workers means that students need to make decisions about the credibility of the information being provided (Watling, Driessen, van der Vleuten & Lingard, 2012). This decision-making regarding credibility around feedback provision can be aided when a strong education alliance between student and supervisor has been established (Telio, Regehr & Ajjawi, 2016). However, the advantages can only be realised if workplaces afford opportunities for the establishment and maintenance of these relationships (Billett, 2001). For without opportunities to establish these relationships, combined with its benefits of expert guidance, unintended learning outcomes, such as shortcuts and inappropriate behaviours, may result (Billett, 2001).

Effective feedback is enabled when students are aware of the required work standards. However, these standards, or work requirements (Billett, 2006), during placements are less obvious to novice students when compared to university-based assessment criteria. These challenges can be attributed to differing standards of work being enacted by individual practitioners, thus presenting a non-uniform picture of work requirements (Billett, 2006). Whilst strategies, such as elaborating on the requirements and goals of effective practice, can support learners to understand the required work standards, they are usually localised and change from setting to setting (Billett, 2006).

Finally, students' understandings of feedback purposes and processes tend to be limited to their previous experiences and maturation level (Murdoch-Eaton & Sargeant, 2012). Thus, feedback is mainly understood as a one-way process, that is, feedback is given to them. Furthermore, concerns about the power hierarchy mean students believe they have limited agency to improve their feedback experiences (Molloy, 2009).

In summary, there are several factors influencing the ways students are likely to engage with placement feedback including lack of familiarity with the setting, the invitational nature of the feedback, establishment of a trusting supervisory relationship (or not) and students' past feedback experience and maturation. These factors emphasise that feedback is dependent on two-way engagement between learner and other (educator, peer or patient) and their level of feedback literacy. The theoretical perspectives underpinning a dialogic feedback process are described in the next section.

### 13.2.2 Learner-Centred Feedback: Theoretical Perspectives

The workplace-based feedback literature tends to focus on the quality of individual encounters of information exchange, or the 'micro'. Examples of micro aspects include what is said and in what manner to a learner during a feedback episode (Molloy, 2009). Ende (1983) summarised the microcomponents needed for effective feedback exchanges in the workplace including elements such as information should be based on observation, limited to changeable behaviours and phrased in descriptive rather than judgemental language. Less researched is the role of overarching feedback design within a curriculum (the macro), although this notion of a macro-approach to feedback design is receiving some attention in higher education (Jackel, Pearce, Radloff & EdWards, 2017). A 'macro-view' sees 'feedback as a complex system that needs to permeate the curriculum, rather than an activity that appears within it from time to time' (Molloy & Boud, p. 25 2013). In their description of Feedback Mark 2, Boud and Molloy (2013b) aimed to illuminate the macro-features to consider in feedback design including orientating learners to the purposes of feedback, learners participating in activities promoting self-regulation, providing opportunities for the production of work and incremental challenge in tasks occurring over time.

### 13.2.3 Interventions Supporting Feedback Literacy

Despite the feedback being understood as a two-way process, feedback interventions tend to focus on developing those 'providing' feedback, e.g. clinical supervisors. This is understandable especially given that it is the most requested skill for development by supervisors (Bearman et al., 2017). Excellent opportunities exist for supervisors to understand models of and evidence supporting effective feedback processes (Tai et al., 2016). These are important contributions to improving feedback; however, the paucity of support and development to augment students' feedback literacy is telling, in that, learners are not being supported to recognise and engage with feedback processes.

To address this literature gap, student engagement in feedback processes is being encouraged, and evidence suggests enhancing student agency, i.e. learner's agentic engagement with feedback processes, and improving ability to self-evaluate (Molloy, 2009; Price, Handley, & Millar, 2011b). Most interventions, however, are based on higher education (Winstone et al., 2017) and developed to support student engagement in feedback related to assessment. Strategies include (1) workshops to help students understand how to engage with and use feedback (Winstone et al., 2017) and (2) provision of feedback resources, e.g. guides, feedback sheets and exemplar assignments (Winstone et al., 2017).

Although there is an increasing body of literature exploring factors influencing student engagement in feedback processes and strategies that are being described to

address these, e.g. O'Donovan, Rust and Price (2016), what remains absent are the strategies to augment student understanding of theoretical concepts and outcome evaluations of enhanced learner engagement in feedback processes. Thus, this project aimed to develop, implement and evaluate a learning intervention designed to enhance students' feedback literacy in the workplace. In the next section, the feedback literacy intervention developed for this study is described.

## 13.3 Description of the Intervention

We aimed to create a program to enhance students' feedback literacy before commencing their placement and to augment student engagement in feedback processes whilst on placement in a teaching hospital. To achieve this goal, a multifaceted intervention, including both workshops and resources, designed by workplace clinical educators and educational researchers, introduced the key principles of learner-centred feedback (Boud & Molloy, 2013a) and supported student understanding of their role in feedback processes. This approach was informed by emerging evidence suggesting that workshops and resources can enable student engagement in feedback (O'Donovan et al., 2016; Parker & Winstone, 2016; Winstone et al., 2017; Winstone et al., 2016). However, to the best of our knowledge, no interventions exist to support students' feedback literacy.

The need for this intervention was identified through the broader project survey (Billett et al., 2016), that is, students would like more personalised feedback on their placement performance from experienced practitioners. Moreover, local interventions to support students' feedback literacy were not currently provided. Thus, the workplace intervention was unlikely to be duplicating teachings from the university.

Overall, learning opportunities were sequenced to ensure that students applied their learnings as they progressed through the intervention, that is, develop students' feedback readiness (Billett, 2015). This goal was achieved through conceptual knowledge development related to feedback processes and learning opportunities for procedural and dispositional knowledge development through workshop activities and experiences during and post-placement (Billett, 2015). Table 13.1 provides an overview of the intervention, intended learning outcomes and learning strategies employed. Each component will be described in more detail below along with the pedagogical strategies used.

**E-Learning Module** The e-learning module aimed to introduce students to conceptual knowledge informing effective learner-centred feedback processes and to relate this knowledge to their experiences of feedback. A secondary goal was to advertise the study. The module was advertised and available to all healthcare students in one university. The module, taking about 45 min, began with a video clip entitled 'Feedback in the Workplace' which provided an overview of module activities and introduced key concepts to related to students' role in feedback, who can

**Table 13.1** Overview of learning intervention

| Intervention | Time commitment | Intended learning outcomes | Learning strategies |
|---|---|---|---|
| E-learning module | 30–45 min | Introduce key concepts and principles of effective feedback | Engaging with information about feedback principles and concepts (PowerPoint and quiz) |
| | | Explore student role in feedback | Personal readings |
| | | Reflect on feedback experiences | Video clip sharing of students' feedback experiences on placements |
| Workshop | Up to 3 h | Support students' knowledge development of key concepts and principles of effective feedback | Sharing of conceptual knowledge about feedback (aided by PowerPoint presentation) |
| | | Support active student engagement in feedback processes whilst on placements, and integrate this feedback into their practices | Small- and large-group discussions to share feedback experiences |
| | | Reflection on own and others' experiences of feedback | Role play for students to engage in both providing and receiving feedback (and observing the process as a third party – 'giving feedback on the feedback' including goal setting or reflection) |
| | | Promote understanding of learner and supervisor roles in feedback processes | |
| Reflective activities | 30 min | Reinforce key features of effective feedback | Reflective log for student to complete following feedback episodes |
| | | Reflect on feedback experiences on placement | Two online surveys delivered 1 week and 4 weeks post workshop |

provide feedback and how to improve performance based on feedback. Secondly, an online true/false quiz was presented to promote student understanding of feedback practices and some of its challenges. Thirdly, a summary presentation provided an overview of feedback challenges and the key features of effective feedback processes and suggested strategies to engage in feedback. Two readings (Archer, 2010; Molloy & Boud, 2013) provided an overview of important, yet accessible, conceptual knowledge related to feedback.

Resources illustrating students' experiences of feedback engagement whilst on clinical placements did not exist. Thus, we interviewed and video recorded four students from medicine (n = 1), nursing (n = 2) and physiotherapy (n = 1) who described their experiences of receiving feedback and strategies used to maximise their placement feedback. The recordings were edited to emphasise the key principles of effective feedback including the importance of seeking feedback; asking for specifics; self-evaluation, reflecting on experience; building trusting relationships

**Box 13.1** Questions to support student reflection on feedback experience

- Outline why you think the feedback was good or poor.
- Consider the reflections above, and consider the following questions.
- Who did most of the talking?
- Did the supervisor use inclusive and encouraging language?
- How did the supervisor respond to your questions and comments?
- Was the content provided balanced, i.e. guidance on how to improve and strengths?
- Was a clear plan for improving practice developed?

with supervisor; preparation for feedback episodes; identifying ways to improve; and actively engaging in feedback process. Importantly, students described the emotions associated with feedback engagement along with strategies to normalise these experiences. Finally, students were invited to reflect on their own experiences of feedback by completing a set of open questions (see Box 13.1). Aside from promoting reflection, the questions aimed to reinforce the key features of effective feedback including the need for collaboration and development of a plan for improving practice (Boud & Molloy, 2013a).

**Workshop** To augment learnings from the e-learning module, one-off face-to-face workshops were conducted with healthcare students. The workshop was initially designed as a 3-hour interprofessional workshop and based on an interactive supervisor workshop designed and delivered by one of the authors. In response to student feedback and engagement and educators' reflections, subsequent workshops were revised and presented as a 1.5-h workshop for an interprofessional student cohort. Due to timetable restrictions, a pared-back, bare essentials 30-minute session was presented to the medical students.

The workshops aimed to further develop student understandings of effective feedback principles and processes and to support active engagement in feedback processes whilst on placement and to integrate this feedback into their practices. The session learning objectives included the following:

- Define effective feedback.
- Discuss the purpose of feedback in your context of workplace learning.
- Reflect on methods of seeking and providing feedback.
- Discuss the role of feedback in promoting reflection and judgement capacity.
- Apply a structured method of feedback.

Broadly, the workshops adopted a student-centred approach to facilitating learning. The structure of the first workshop is presented below, and changes based on experience and the educator reflections are presented in the Findings section. Firstly, students shared their goals for attending the session, and the planned learning objectives

were then presented. To promote student engagement, educators explored the importance of feedback through discussion, and students shared their feedback experiences. To normalise the emotions experienced from feedback episodes, findings from key studies were presented. It was important that students understood and could define 'feedback'; therefore, a range of feedback definitions were presented, and students critiqued these, based on their experience and ideals.

In preparation for feedback on placement, students engaged in scenario-based simulations where they enacted a teaching episode. In this instance, the 'learner' could not ask questions to the teacher, and one student observed and provided feedback on the quality of the teaching. Following this simulation, the evidence, theory, principles and models, including Feedback Mark 2, related to effective feedback processes were presented to the students. The influence of emotions on feedback engagement was also described. After this overview, students applied their understandings of effective feedback models in a revised version of the simulation. In this instance, the 'learner' could ask questions, and the simulation mirrored a structured model of feedback. Finally, key tips for effective learner engagement in feedback including strategies for self-evaluation were presented.

**Reflective Work-Based Activities** Following the workshop, students were invited to participate in reflective work-based activities which had two aims: (1) to evaluate the effectiveness of the learning intervention and (2) to reinforce, through reflection on experience, key principles and processes of effective feedback. To achieve these aims, three work-based activities, also data collection tools (see Data Collection section), were developed. Firstly, a work-based feedback reflective log, based on e-learning reflective questions (see Box 13.1), was designed to promote reflection on key elements of Feedback Mark 2 and aimed to support student reflection on feedback experiences during their clinical placement.

Secondly, two surveys were distributed electronically, via Survey Monkey®, 1 and 4 weeks after the workshop. The week 1 survey aimed to evaluate students' feedback experiences, that is, micro-perspectives (Boud & Molloy, 2013a), 1 week into their clinical placement and mirrored those in the activity log with additional questions including:

- Have you engaged in the feedback process any differently from previous placements? If so, in what ways?
- What aspects of the feedback approach were helpful for your learning?
- What aspects of the feedback approach were NOT helpful for your learning?

The purpose was to reinforce the key features of feedback whilst students were on placement. The second survey evaluated learners' perceptions of all feedback activities, that is, macro-perspectives (Boud & Molloy, 2013a), across the placement period. Thus, this multifaceted learning program, using three components, was developed to augment feedback literacy. The following section outlines the research methods used to implement the program and evaluate its influence on students' feedback literacy.

## 13.4 Research Method

A design-based research (DBR) approach was used to study learning in context through systematic design and study of instructional strategies and tools (The Design-Based Research, 2003). DBR methodology aims to solve real-world problems that are critical to learning (e.g. students want more feedback from clinical placements) whilst making contributions to theory construction and explanation. Accordingly, both practical and empirical contribution to workplace learning and higher education can be made.

The key study phases are presented in Fig. 13.1 (based on Cotton et al. (2009)) and described below. Firstly, in Stage 1, as described above, the learning need to support students' feedback literacy was prompted by the survey findings from Billett et al. (2016) along with the absence of literature addressing learner engagement in feedback. These findings were used to inform Stage 2. This stage involved the development of a learning intervention designed to augment learners' feedback literacy. The learning intervention development was informed by the theoretical framework of learner-centred feedback (LCF) (Boud & Molloy, 2013a). During Stage 3 including 3.1. and 3.2, the intervention implementation was evaluated, reflected on and further refined. The reflections and evaluation findings are presented in the Data Collection section, and the evaluation process and outcomes are described in the Findings section – (1) student impressions, (2) educators' perceptions and (3) students' perceptions of their learnings. These impressions and perceptions informed Stages 4.1 and 5.1 where the intervention was refined and then enacted (Stages 4.2 and 5.2) with the next student cohort, and, in Stage 6, the intervention was refined and finalised.

**Data Collection** In Stage 3.1 (see Fig. 13.1), all healthcare professional students from one university were invited, via email, to participate in the learning intervention. The intervention evaluation aimed to (1) determine students' reaction to the learning intervention, that is, Level 1 evaluation (participants' reactions) (Guskey, 2014); (2) identify students' learnings, that is, Level 2 evaluation (participants' learning) (Guskey, 2014); and (3) explore students' implementation of their learnings into their practice, again, Level 2 evaluation (Guskey, 2014). To achieve these goals, the following data were collected in three phases described below.

In Phase 1 – post e-learning module and workshop questionnaire – a questionnaire, including qualitative and quantitative data, asked students to describe their key learnings from these experiences, plans for integrating new learnings about feedback into practice and impressions of these learning experiences. This paper-based questionnaire, provided at the end of the workshop, was also designed to reinforce workshop learnings, e.g. asking students to forward plan how they will engage in feedback processes. To triangulate the data collection, the educators completed a reflective summary, based on Miles and Huberman's (1994) contact summary sheet, which considered the main concepts, themes, issues and questions that were emerging from the workshop (Stage 3.2).

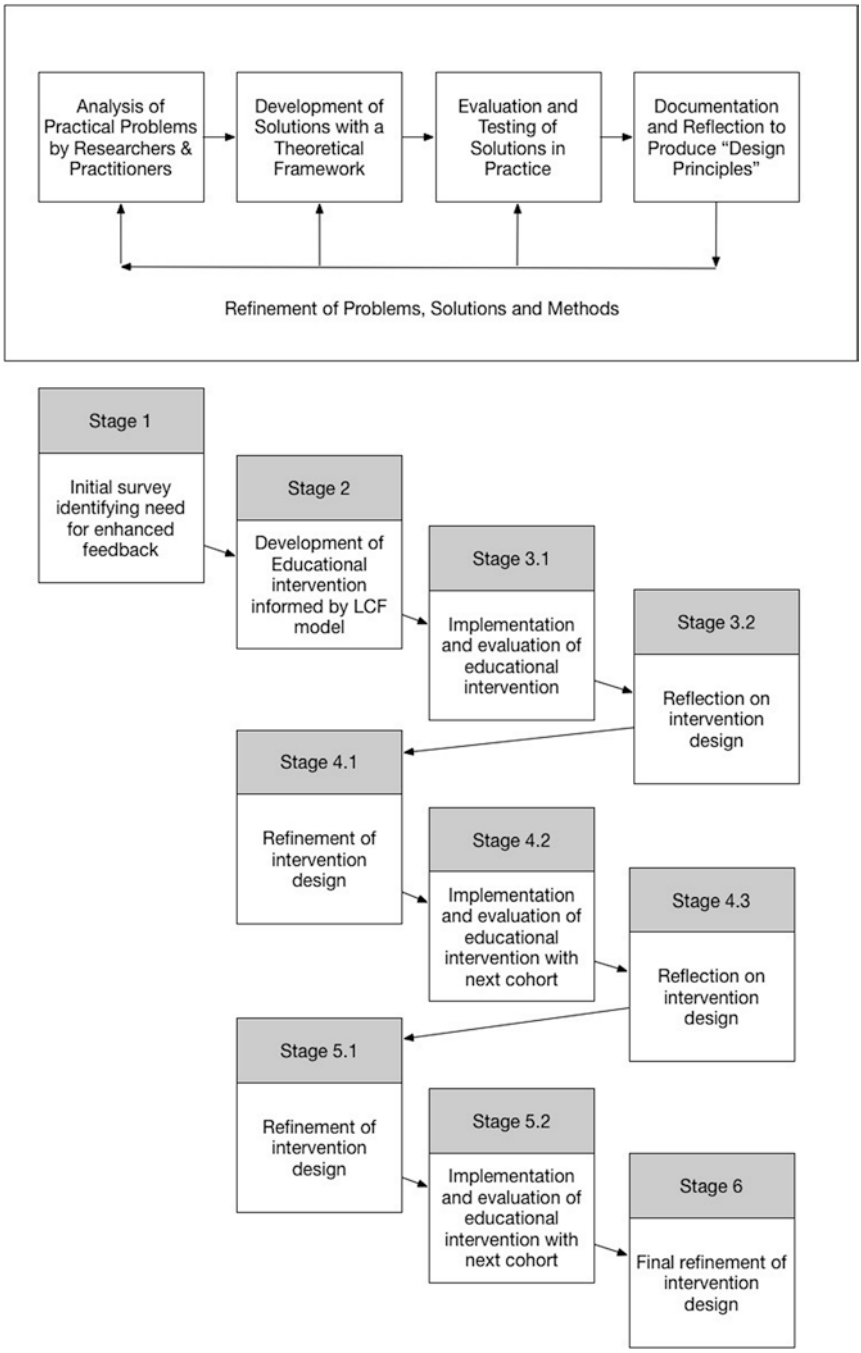


**Fig. 13.1** Overview of study design (based on Cotton, Lockyer and Brickell (2009))

In Phase 2 – reflective surveys and feedback log – reflective surveys were delivered online, via Survey Monkey®, in two parts and included both qualitative and quantitative data to all students who participated in the workshop and had agreed to be part of the study. For survey 1, students, whilst on placement and 1 week after the workshop, were asked to evaluate an episode of feedback. For survey 2, 4 weeks after the workshop, students were invited to evaluate their feedback experiences whilst on placement including the patterns of feedback experienced and how they engaged in feedback processes (e.g. opportunistic or planned) and to compare their feedback experiences with those from previous placements.

In Phase 3, qualitative in-depth interviews were conducted with student volunteers who attended the workshop. The purpose of the interviews was to capture student placement experiences of feedback and to describe their role in placement feedback encounters.

As illustrated in Fig. 13.1, the intervention was conducted three times, and after each cycle of implementation and evaluation, the educators reflected on the students' responses and their experiences of the education session. These reflections were diarised and informed subsequent design of the learning intervention.

**Data Analysis** The Phase 1 and 2 questionnaires were analysed using descriptive statistics for the quantitative data, that is, frequency and thematic analysis of qualitative data. Phase 3 data analysis of the in-depth interviews used the framework method approach and was based on the following steps: (1) familiarisation, (2) identifying a thematic framework, (3) indexing, (4) charting and mapping and (5) interpretation of key themes (Ritchie & Spencer, 1994). Firstly, the researcher familiarised themselves with data by reading through the transcripts. Secondly, a thematic framework was identified through coding of a sample of interviews, and this framework was informed by based on Feedback Mark 2 (Boud & Molloy, 2013a) and key feedback literature. This framework was agreed by the team. Thirdly, all data were indexed, i.e. coded by one researcher, JH, and to ensure research credibility, the transcripts were divided amongst the team who indexed them independently (Lincoln & Guba, 1985). Fourthly, coded data were mapped and charted in Excel®, and patterns and associations were identified. Finally, findings from each analysis phase were compared, contrasted and synthesised to determine key themes relating to the students' evaluation of the learning intervention. The next section will present the key findings from this data analysis process.

## 13.5 Findings

One-hundred and five healthcare students participated in the learning intervention including nursing, social work, pharmacy, physiotherapy and medical students. The response rate for each data collection tool was:

- Workshop evaluations n = 29 (interprofessional workshops) and n = 70 (medical students)

- Reflection survey completion n = 8
- Interviews conducted n = 28 (including 12 nursing students, 12 medical students and 4 social work students)

Notably, none of the feedback logs were returned to the researchers. However, this might be due to the lack of integration of the intervention with university processes especially given that it was an extracurricular activity and not linked to assessment.

In terms of students' experiences of augmenting feedback literacy, broadly, participants valued the program as they had not had any other learning experiences focused on developing their feedback literacy. This meant that students often considered feedback to be something which is 'done to them' (feedback as telling) rather than a process which they can lead. The following sections present the three key themes to emerge from the data analysis, and these include (1) students' previous experience of feedback; (2) learning about feedback – evaluation of the intervention (learner impressions, educator perceptions and students' perceptions of their learning) – and (3) engaging with feedback whilst on placement.

### *13.5.1 Students' Previous Experiences of Feedback*

In terms of feedback literacy, the student participants had limited understandings of effective feedback processes. Overall, feedback was understood to be a process where you are provided information about performance with limited agency to influence their learning. These perspectives were shaped by their previous feedback experiences, both at university and workplace/placement settings. Moreover, almost all students indicated they lacked preparedness for engaging with feedback on placement. This was attributed, by some students, to not having been prepared at university to engage in workplace feedback processes. The following quote illustrates this experience:

> … we've finished all the parts at uni [university] before we go on placement and not once has anything been mentioned during our lectures or tutorials sessions about feedback from your supervisor or from anybody. (Nursing-3)

The main ways in which students described understanding feedback included feedback as telling, lacking specificity and lacking a plan. Firstly, most student interviewees described their previous feedback experiences as ones where supervisors told them about their performance, that is, a one-way dialogue. This meant that students lacked feedback readiness, especially based on their conceptual understandings, and this was limiting the ways they might engage with feedback. Moreover, in terms of procedural and dispositional knowledge, they did not appreciate that they could have agency in workplace feedback processes and, thus, had limited insight into how to engage in feedback. The following interview quote illustrates this perspective:

> I just sort of expected it [feedback] to be handed out to me. (Nursing-1)
>
> I can't remember specifics but like I said I didn't really have to seek out or ask for feedback, it literally was just given to me. (Medical-9)

Because of these understandings, several students indicated that they found it challenging to engage with feedback on placement. The following quote emphasises these challenges:

> It's quite daunting trying to engage in it because you sit down with the facilitator and they will talk at you, not with you. It's hard to try and put your point across without trying to offend them or something like that. (Nursing-6)

Secondly, as well as not being actively engaged in feedback processes, most students noted that the feedback lacked specificity, for example, vague statements such as 'that was good' and 'you are doing really well'. Thirdly, most interviewees noted that they often did not receive or were unclear about how to improve their performance based on the feedback received. The examples provided by the students included receiving a numerical value without guidance on how to improve or praise without a plan. The students suggested that because of these experiences, feedback seemed to lack relevance to their learning and therefore might even be dismissed:

> If it's irrelevant, it's like, thanks for that, and you just dismiss it. But if it's relevant you'll take it on-board and you will change and you'll implement the things that people have suggested. (Nursing-1)

In summary, students' understandings of feedback processes were constrained by past experiences without learning experiences designed to support their understanding of and engagement in workplace feedback. Consequently, most students were entering workplaces expecting feedback to be a one-way process where they had limited agency to influence. These previous experiences begin to explain the ways in which students engaged with and evaluated the intervention as described in the next section.

### *13.5.2 Learning About Feedback: Evaluation of the Intervention*

Almost all interviewees reinforced that the learning intervention was their first in-depth experience explaining feedback processes. This alone is important because despite the literature indicating that students want more feedback, neither curriculum nor pedagogic approaches within higher education seem to be supporting students' understanding of their role in feedback processes. Given that Feedback Mark 2 (Boud & Molloy, 2013a, 2013b) emphasises that feedback is a two-way process of engagement, it is logical that students' development should be supported in an iterative fashion throughout their programs. The learning intervention evaluation is presented as follows: (1) student impressions (Level 1, participants' reactions), (2) educators' perceptions and (3) students' perceptions of their learnings (Level 2, participants' learnings). Each of these levels of evaluation is presented below.

#### 13.5.2.1 Student Impressions

Firstly, in terms of student impressions, their responses to the intervention were very positive with the average rating being 8.8 on 0–10 scale (10 = most helpful). This finding was reflected in all interviews. Broadly, students indicated feeling more confident to engage in placement feedback. The following workshop evaluation quote illustrates this perspective:

> I really feel I can get feedback now with the strategies. Understanding that it is okay to ask for feedback. (Nurse-6)

Despite these positive findings, opportunities to improve the intervention were also provided. Firstly, several students noted that they had difficulty accessing the e-learning module; however, those who could access it indicated they valued the learning experience.

Secondly, in terms of the type of intervention, several students commented that feedback should be integrated into their university coursework, rather than a one-off work-based initiative. Some noted that learning about feedback should be mandatory. It was also noted that interventions like this should be provided at the beginning of each placement. For example:

> I do think that possibly laying it into uni [university] could be helpful, not in the early years I don't think. But possibly when we do a preparation for practice block right at the end of second year. (Medical-1)

Finally, based on previous experiences with supervisors, some students indicated that supervisors would benefit from enhanced feedback literacy:

> It would be good if the seniors could understand the importance of feedback as well, of giving feedback. (Medical-3)

These perceptions suggest that this intervention was valued by the students; however, further opportunities exist for improving the design of the program. In the next section, the educators' perspectives are examined and related to the students' impressions.

#### 13.5.2.2 Educators' Perceptions

The educators, including nurse educator, allied health educator and medical educator, composed reflections (n = 3) following the first workshop and noted the high degree of student enthusiasm and engagement which was demonstrated through willingness to share previous feedback experiences and stories. Interestingly, all educators noted that students lacked an understanding of effective feedback processes. The following quote illustrates this concept:

> Students did not really have a sense of why, what or how to actively seek out feedback to enhance learning during clinical placement. (Educator-1)

Educators reported that students were aware, because of past experiences, of the complexities of engaging in feedback in the clinical setting and had experienced

challenges when attempting to engage further. Because of these experiences, students' objectives for the session included:

- How to get a positive comment from a critical facilitator
- How to work with a facilitator not noticing what you are doing but observing everything else on the work, i.e. distracted or focused on clinical work
- How to get feedback you can use

Moreover, the educators indicated that within the workshops, students were describing strategies for asking for feedback, securing further details and engaging in the development and implementation of action plans for improvement.
These reflections also informed the refinement of the intervention design (Stages 4.1 and 5.1 – see Fig. 13.1). Based on the reflections, the following refinements were made. Firstly, after the first workshop the following refinements were made: provision of less information about theoretical perspectives, an increased focus on practical tools, sharing language and phrases for students to elicit feedback. One approach adopted was sharing a TEDx talk (TEDx, 2015) describing key questions to ask to elicit feedback. Also, the educators' role played the enactment of these phrases and tools, thereby role modelling the approaches students could use during placement. Secondly, because of the challenges of integrating a nonuniversity-based course into students' busy work schedules, the subsequent workshop durations were reduced from 3 h to between 0.5 and 1.5 h. Overall, it was unanimously agreed that future workshops should have an increased focus on sharing and engaging students in practical feedback engagement strategies. These perceptions were confirmed by students' perceptions of their learning which is presented in the next section.

### *13.5.3 Student Perceptions of Their Learning*

Students were also invited in workshop evaluation questionnaires and interviews to describe their learnings. Almost all students indicated that the intervention contributes to their understanding of the key features of effective feedback processes. However, there were three stages for evaluating the student learning outcomes. Firstly, after the workshop, students were invited to outline their key learnings. Most students described feedback as a process in which they had a role to play, and this was surprising for them. A typical response is outlined below:

> Greater understanding of what feedback is and how it needs to be constructive and allow the student to have input into the feedback to enable them to do better next time. (Nursing-7)

Other key understandings included the importance of being engaged in the process by preparing for feedback sessions through self-evaluation, e.g. using reflective journals, seeking feedback including early in the placement, asking for opportunities for improvement and building relationships with supervisors. Also, some students noted that feedback can be obtained from a range of people, and by expressing

their desire for feedback, they are more likely to be engaged in the process. The following quote illustrates that students valued this learning opportunity to learn about feedback processes:

> [The workshop] changed [my] perspective-feedback requires diagnostic strategies that are positive respectful. Engage in 2-way processes [sic]. (Nursing-2)

These findings suggest that student feedback literacy had improved. Moreover, they were formulating plans to enhance their engagement with feedback processes whilst on placement. In summary, both students and educators indicated that the learning intervention was well received, and importantly, students' resultant learning suggested enhanced feedback literacy through improving readiness, in terms of conceptual and procedural knowledge (Billett, 2015).

### *13.5.4 Engaging with Feedback Whilst on Placement*

A key outcome from this intervention was students' descriptions of effective feedback, that is, a process in which they had a role to play. For example, almost all students interviewed described feedback as a two-way collaboration between learner and supervisor. They stated that the goal of this collaboration was to develop strategies for improvement. For example:

> …rather than just as a student taking it in and accepting it, having the chance to debate it even, whether that be – not saying that that would-be criticism, debate [sic], but discussing it further. (Social Work-4)

Based on these understandings, students were engaging with placement feedback processes in different ways. Firstly, most students indicated the importance of establishing collegiate relationships with supervisors and peers as a platform for effective feedback processes (Telio et al., 2015). The establishment of these relationships began at the start of term. The following quote illustrates this perspective:

> I think it's just once that relationship builds with the registrar and they know who you are and they know where you're at, that you feel a little bit at ease asking them something straightforward. (Medical-1)

In these ways, their enhanced feedback readiness (Billett, 2015) was informing their engagement with feedback in the workplace.

Despite this understanding, it can be challenging for students who are novices and outsiders in the practice community, especially when they are frequently working with different people, to establish relationships (Billett, 2001, 2006). The challenges experienced, related to workplace affordances, are outlined below:

> I think for me it was hard because I wasn't really with the same people most days. So, it was difficult to ask for feedback if you don't really get an opportunity to do many things because you're not with the same teachers. (Medical-12)

However, several examples were provided by students illustrating how they overcame these challenges. For example, one nursing student at the start of each shift described presenting herself as being keen to learn and receive feedback:

> …I think what helped with that is I initially said I'm willing to work to change anything that I'm doing that you feel is not correct or safe and also any feedback good or bad I'd really appreciate it. (Nursing-9)

In these ways, students were also contributing to the establishment of trusting relationships with supervisor (Telio et al., 2015). Secondly, most students indicated that they were now inviting supervisors and/or work colleagues to provide them with feedback, either, broadly, by articulating that they want to learn and would relish any feedback or, specifically, by asking for feedback on a task, e.g. cannulation. In these ways, students were identifying opportunities for feedback and demonstrating agency in the feedback process:

> Yeah, well as I say I was proactive. I was hunting for it [feedback]. I was looking for it because I thought right, been to the workshop, I know how to ask for feedback, get on and do it. (Nursing-2)

This is an interesting finding because supervisors are encouraged to provide opportunities for learners to solicit feedback (Boud & Molloy, 2013a), and yet, with enhanced feedback literacy, students recognised that they have a role to play. Moreover, several students noted receiving more feedback than before and/or were engaged in the feedback process earlier than expected:

> For me I don't know if I would have been so forthcoming with asking about feedback or taking the initiative to even do something had I not been told that that was okay. I think I would have been a little bit intimidated and I guess I was the first day a little bit. But I think it would have taken me more time perhaps and I probably wouldn't have gotten the same amount of feedback that I did. (Medical-1)

In these ways, by normalising feedback as a two-way process through the workshops, the students felt legitimised in adopting a feedback-seeker role.

Thirdly, as well as seeking feedback, students reported they were also critically engaging in feedback processes. If essential features were not being enacted, then they would engage with the feedback provider to elicit these and/or find alternative ways to secure their learnings. For example, if during the feedback interaction the supervisor had not developed a plan with them, then the students would ask for one and/or develop their own learning plan:

> There was..a wound washout that I had to do and I was told the way that I was doing it, I wasn't using enough pressure in it…So I had to wait for my next opportunity and the next moment I heard that there was a wound I put my hand up and said can I do the washout. (Nursing-4)

Finally, a few students acknowledged that not only it is challenging for them to engage in feedback, but it is likely to be challenging for supervisors to provide feedback. Supervisors may not fully understand effective feedback processes, and without student engagement, it may be challenging for them to have a full understanding of the students' learning needs and feedback requirements. For example:

> Or being able to get proper feedback, because obviously, the facilitators that you might have might actually have no idea how to give feedback either, so if one of us knows what we're doing then hopefully it'll work out. (Nursing-3)

The students' reports post-placement indicated that their enhanced feedback literacy changed their contributions to learning encounters on placement through enhanced feedback readiness (Billett, 2015). Students reported they were more likely to seek opportunities for feedback and more likely to look for tasks in the workplace that might enable transference of new strategies into practice, and they gained an appreciation for the complexity of feedback, including that it can be a confronting process for educators also.

## 13.6 Conclusion and Recommendations

This intervention, designed to improve students' feedback literacy, was positively received. The evaluation findings suggest that the intervention improved learners' conceptual understanding of feedback and improved students' readiness to engage in feedback processes (Billett, 2015). Students reported enhanced engagement in feedback processes during placements. To explain the evaluation findings, they have been aligned to the key features of Feedback Mark 2 (see Table 13.2). For each feature, evidence from the evaluation findings is presented, along with further opportunities for enhancing enactment of the features including researching the enactment of these features. Further opportunities for enhancing learner outcomes along with strengthening the evidence to support our claims will be discussed below.

Based on Table 13.2, two key considerations for sustaining and augmenting learner-centred feedback processes both during and post-placement were identified. These include (1) increasing learner engagement in feedback and (2) intervention design recommendations. These two considerations are expanded upon below with reference to the literature.

### *13.6.1 Increasing Learner Engagement in Feedback*

The students' positive response to and engagement with the intervention were encouraging and suggest that learning on clinical placement might be improved through augmenting students' feedback literacy. This high level of student engagement was not anticipated by the research team because this skill, that is, engagement in feedback, may be considered by learners as 'soft skill' or 'non-clinical skill'. Engaging students in these types of skills has long perplexed and challenged clinical educators (Molloy & Delany, 2009; Molloy & Keating, 2011). However, it might be argued and potentially represents the students' viewpoint that effective feedback engagement is a 'meta-clinical skill', in that, without feedback, students' clinical

**Table 13.2** Aligning student responses to the intervention to Feedback Mark 2 features

| Features of Feedback Mark 2 (Boud & Molloy, 2013a) | Student responses | Further opportunities for educational design and research |
|---|---|---|
| Learners orientated to the purposes of feedback | Students described effective feedback processes and recognised that the intention of feedback is improvement | Support educators' feedback literacy to contribute to shared understandings of feedback purpose and processes |
| Learners participate in activities promoting self-regulation | Students recognised the importance of being prepared for feedback sessions and engaging in the dialogue | Creation of documents to help cue students' reflection on performance in preparation for feedback conversations |
| Learner disposition for seeking feedback is developed | Students reported actively seeking feedback whilst on placement | Observational/ethnographic study design needed to capture these seeking behaviours |
| Opportunities provided for production of work | Students asked for clinical practice opportunities and/or sought opportunities | Formal verbal feedback exchanges may require students to record a summary, including goals and opportunities to produce work |
| Calibration mechanisms | Students reported actively seeking external feedback from supervisors to determine how they are performing | A feedback log may stipulate feedback source – self, peer, patient and supervisor – to reinforce multiple sources to aid calibration of judgement |
| Incremental challenge of tasks | Students described engaging in increasingly challenging tasks | Collaboration between learner and supervisor to augment this sequencing of learning, especially for opportunities students are unaware of in the workplace (e.g. more complex procedures) |
| Nested tasks to allow for 'feed forward' | Students identified subsequent learning opportunities during placement to augment learning based on feedback | Longitudinal study design enabling task selection to be captured, particularly between rotations (e.g. surgical to general practice rotation for medical students) |
| Learner as 'seeker and provider' | Students enacted feedback-seeking behaviours, but there were few instances where they acted as provider of feedback | Structured peer learning activities may support students to provide feedback. Supervisors may also ask for feedback on their own role, as a routine part of any feedback conversation, reinforcing the bidirectional responsibilities in feedback |

capabilities are unlikely to improve. These results throw up challenges to educators, as to whether we may in fact underestimate students' ability to integrate conceptual ideas about learning and teaching. If students understand the importance of the skill to their development and have direct experience of its benefits, this would likely serve to further their engagement.

### *13.6.2 Intervention Design Recommendations*

For the intervention, there are opportunities to further improve its design and enactment. Firstly, as described throughout this chapter, feedback is a two-way process requiring engagement of both learner and supervisor. Given that this intervention engaged only one party (learners), further interventions should engage supervisors. This recommendation aligns with assessment literacy research which suggests that educators and students need development to ensure that improved processes/approaches are implemented (Price, Carroll, O'Donovan, & Rust, 2011a). However, further work is required to determine whether these should be the separate or combined interventions (e.g. learners and supervisors in one room). Another key design consideration is when is the best time to enact this intervention, e.g. before, during or after placements? Would it be important to introduce learners to feedback literacy day 1, year 1 in a program, or would the relevance be lost at this point? Does an initial orientation to feedback purpose and process need to occur early and then be reinforced vertically throughout a program, with a 'booster' such as the intervention we describe, at the clinical placement interface?

Whilst the alignment of the intervention to placement transition seemed appropriate for enabling application of learning, this intervention represented a one-off program, and there is likely to be further value in sequencing feedback learning throughout the pre-vocational curriculum. This approach may improve students' engagement in feedback processes related to assessments as well. The broader consideration for educators and educational researchers is whether there is value in promoting student metacognition about learning through sequenced activities with increasing complexity throughout the curriculum. Moreover, finding ways to build and integrate a feedback curriculum program across contexts will be an important goal especially post-placement.

When students return to university from placements, of central importance is scaffolding their feedback experiences and learnings with their university-based learnings. Our findings suggest that students, through enhanced literacy and readiness, were more actively engaged in feedback processes whilst on placement; however, as noted in Table 13.2, feeding forward using nested tasks builds subsequent learning curriculum and contributes to enhanced performance (see Table 13.2). In these ways, learners' ongoing engagement with feedback needs to be sustained from setting to setting. A key strategy for higher education would be to support academics and educators to develop a shared understanding of learner-centred conceptualisations, thereby fostering two-way engagement with feedback.

Finally, although evaluation findings are very positive, more evidence is required to further understand the influence of the learning intervention on learners' approaches to feedback. This could be achieved through observational study designs or engaging supervisors to determine whether students' approaches to learning have improved. Moreover, we need to be mindful that feedback processes sit within a complex and interdependent network of systems, including supervisor relationships, workplace cultures and hierarchies, which influence feedback outcomes

(Ajjawi, Molloy, Bearman & Rees 2017). Observational studies would enable us to capture these contextual and relational considerations that may influence learners' engagement in feedback in the workplace. Through the intervention, we have begun to address some aspects such as individual feedback literacy and student awareness of interpersonal and social factors in learning. Further investigations into how to build learner and educator literacy in feedback, including navigating contextual and cultural factors, are warranted. Overall, priming, doing and reflection are valued activities as part of any feedback process, and in this spirit, we recommend that an integrated feedback literacy program, with formal learning about how to use feedback before, during and after placements, is key to successful uptake of these skills in practice.

## References

Ajjawi, R., Molloy, E., Bearman, M., & Rees, C. E. (2017). Contextual influences on feedback practices: An ecological perspective. In D. Carless, S. M. Bridges, C. K. Y. Chan, & R. Glofcheski (Eds.), *Scaling up assessment for learning in higher education* (pp. 129–143). Singapore, Singapore: Springer Singapore.

Archer, J. C. (2010). State of the science in health professional education: Effective feedback. *Medical Education, 44*(1), 101–108. https://doi.org/10.1111/j.1365-2923.2009.03546.x

Bearman, M., Tai, J., Kent, F., Edouard, V., Nestel, D., & Molloy, E. (2017). What should we teach the teachers? Identifying the learning priorities of clinical supervisors. *Advances in Health Sciences Education*, 1–13. https://doi.org/10.1007/s10459-017-9772-3

Billett, S. (2001). Learning through work: Workplace affordances and individual engagement. *Journal of Workplace Learning, 13*(5/6), 209–214.

Billett, S. (2006). Constituting the workplace curriculum. *Journal of Curriculum Studies, 38*(1), 31–48.

Billett, S. (2015). Readiness and learning in health care education. *Clinical Teacher, 12*, 1–6. https://doi.org/10.1111/tct.12477

Billett, S., Cain, M., & Le, A. H. (2016). Augmenting higher education students' work experiences: Preferred purposes and processes. *Studies in Higher Education*, 1–16. https://doi.org/10.1080/03075079.2016.1250073

Boud, D., & Molloy, E. (2013a). *Feedback in higher and professional education: Understanding it and doing it well*. New York: Routledge.

Boud, D., & Molloy, E. (2013b). Rethinking models of feedback for learning: The challenge of design. *Assessment & Evaluation in Higher Education, 38*(6), 698–712. https://doi.org/10.1080/02602938.2012.691462

Carless, D., Salter, D., Yang, M., & Lam, J. (2011). Developing sustainable feedback practices. *Studies in Higher Education, 36*(4), 395–407. https://doi.org/10.1080/03075071003642449

Cotton, W., Lockyer, L., & Brickell, G. (2009). *A journey through a design-based research project.* Paper presented at the World Conference on Educational Multimedia, Hypermedia and Telecommunications, Chesapeake, USA.

Ende, J. (1983). Feedback in clinical medical education. *JAMA, 250*(6), 777–781. https://doi.org/10.1001/jama.1983.03340060055026

Guskey, T. R. (2014). Evaluating professional learning. In S. Billett, C. Harteis, & H. Gruber (Eds.), *International handbook of research in professional and practice-based learning* (pp. 1215–1235). Dordrecht, The Netherlands: Springer Netherlands.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*(1), 81–112.

Jackel, B., Pearce, J., Radloff, A., & EdWards, D. (2017). In H. E. Academy (Ed.), *Assessment and feedback in higher education: A review of literature*. York, UK: Australian Council for Education Research Higher Education Academy.

Jackson, D. (2015). Employability skill development in work-integrated learning: Barriers and best practice. *Studies in Higher Education, 40*(2), 350–367. https://doi.org/10.1080/03075079.2013.842221

Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). London: SAGE Publications.

Molloy, E. (2009). Time to pause: Giving and receiving feedback in clinical education. In C. Delaney & E. Molloy (Eds.), *Clinical education in the health professions: An educator's guide*. Chatswood, Australia: Elsevier Australia.

Molloy, E., & Boud, D. (2013). Seeking a different angle on feedback in clinical education: The learner as seeker, judge and user of performance information. *Medical Education, 47*(3), 227–229. https://doi.org/10.1111/medu.12116

Molloy, E., & Delany, C. (2009). *Clinical education in the health professions: An educator's guide*. Sydney, Australia: Churchill Livingstone Australia.

Molloy, E., & Keating, J. (2011). Targeted preparation for clinical practice. In S. Billett & A. Henderson (Eds.), *Developing learning professionals: Integrating experiences in university and practice settings* (pp. 59–82). Dordrecht, The Netherlands: Springer Netherlands.

Murdoch-Eaton, D., & Sargeant, J. (2012). Maturational differences in undergraduate medical students' perceptions about feedback. *Medical Education, 46*(7), 711–721. https://doi.org/10.1111/j.1365-2923.2012.04291.x

O'Donovan, B., Rust, C., & Price, M. (2016). A scholarly approach to solving the feedback dilemma in practice. *Assessment & Evaluation in Higher Education, 41*(6), 938–949. https://doi.org/10.1080/02602938.2015.1052774

Parker, M., & Winstone, N. (2016). Students' perceptions of interventions for supporting their engagement with feedback. *Practitioner Research in Higher Education, 10*(1), 53–64.

Price, M., Carroll, J., O'Donovan, B., & Rust, C. (2011a). If I was going there I wouldn't start from here: A critical commentary on current assessment practice. *Assessment & Evaluation in Higher Education, 36*(4), 479–492. https://doi.org/10.1080/02602930903512883

Price, M., Handley, K., & Millar, J. (2011b). Feedback: Focusing attention on engagement. *Studies in Higher Education, 36*(8), 879–896. https://doi.org/10.1080/03075079.2010.483513

Ritchie, J., & Spencer, L. (1994). Qualitative data analysis for applied policy research. In A. Bryman & R. Burgess (Eds.), *Analyzing qualitative data*. London: RoutledgeFalmer.

Rust, C., Price, M., & O'Donovan, B. (2003). Improving students' learning by developing their understanding of assessment criteria and processes. *Assessment & Evaluation in Higher Education, 28*(2), 147–164. https://doi.org/10.1080/02602930301671

Smith, C., Ferns, S., & Russell, L. (2014). *The impact of work integrated learning on student work-readiness. Final Report 2014*. Retrieved from Sydney:

Smith, C., Worsfold, K., Davies, L., Fisher, R., & McPhail, R. (2013). Assessment literacy and student learning: the case for explicitly developing students 'assessment literacy. *Assessment & Evaluation in Higher Education, 38*(1), 44–60. https://doi.org/10.1080/02602938.2011.598636

Steinert, Y., Mann, K., Centeno, A., Dolmans, D., Spencer, J., Gelula, M., et al. (2006). A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education: BEME Guide No. 8. *Medical Teacher, 28*(6), 497–526. https://doi.org/10.1080/01421590600902976

Tai, J., Bearman, M., Edouard, V., Kent, F., Nestel, D., & Molloy, E. (2016). Clinical supervision training across contexts. *Clinical Teacher, 13*(4), 262–266. https://doi.org/10.1111/tct.12432

TEDx. (2015). *Heen, Shelia: How to use others' feedback to learn and grow*. Retrieved from https://www.youtube.com/watch?v=FQNbaKkYk_Q

Telio, S., Ajjawi, R., & Regehr, G. (2015). The "Educational Alliance" as a framework for reconceptualizing feedback in medical education. *Academic Medicine, 90*(5), 609–614.

Telio, S., Regehr, G., & Ajjawi, R. (2016). Feedback and the educational alliance: Examining credibility judgements and their consequences. *Medical Education, 50*(9), 933–942. https://doi.org/10.1111/medu.13063

The Design-Based Research, C. (2003). Design-based research: An emerging paradigm for educational inquiry. *Educational Researcher, 32*(1), 5–8.

Watling, C., Driessen, E., van der Vleuten, C. P. M., & Lingard, L. (2012). Learning from clinical work: The roles of learning cues and credibility judgements. *Medical Education, 46*(2), 192–200. https://doi.org/10.1111/j.1365-2923.2011.04126.x

Winstone, N. E., Nash, R. A., Parker, M., & Rowntree, J. (2017). Supporting learners' agentic engagement with feedback: A systematic review and a taxonomy of recipience processes. *Educational Psychologist, 52*(1), 17–37. https://doi.org/10.1080/00461520.2016.1207538

Winstone, N. E., Nash, R. A., Rowntree, J., & Parker, M. (2016). 'It'd be useful, but I wouldn't use it': Barriers to university students' feedback seeking and recipience. *Studies in Higher Education*, 1–16. https://doi.org/10.1080/03075079.2015.1130032

# Chapter 14
# Integrating a Career Development Learning Framework into Work-Integrated Learning Practicum Debrief Sessions

**K. Clanchy, S. Sabapathy, G. Reddan, N. Reeves, and A. Bialocerkowski**

## 14.1 Introduction

This chapter focuses upon the benefits of integrating a model of career development learning into the post-practicum debrief sessions of a postgraduate diploma. The key components of the development of the model include (i) detailed consideration of the nature of the program of study, (ii) student and profession-specific variables and (iii) the involvement of students and industry stakeholders. The findings from a survey that was implemented to assess the efficacy of the career development learning program suggest that pre-existing career development services and university and industry relationships can be effectively integrated into elements of a career development model. Analysis of student perceptions of the value of specific modules (e.g. practitioner panels and employment-seeking workshops) was considered to be essential for the effectiveness of the program. Furthermore, we have discussed the benefits of embedding structured extracurricular activities into the career development learning program that provide opportunities for networking, professional development and additional work experience. To address students' perceptions of employability, we have indicated that the development of modules should clearly relate to increasing knowledge about employment opportunities and industry-specific knowledge. Finally, the necessity for regular evaluations of the program to ensure currency and relevance was identified. The model proposed here was subsequently refined, drawing on educational theory and the needs of the particular program of study. The activities of nine career development learning modules conducted

K. Clanchy (✉) · S. Sabapathy · G. Reddan · N. Reeves · A. Bialocerkowski
School of Allied Health Sciences, Griffith University, Gold Coast Campus, Southport, QLD, Australia
e-mail: k.clanchy@griffith.edu.au; n.reeves@griffith.edu.au



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_14

during five workshops that were held shortly after students concluded each of a series of five- to six-week practicum blocks are discussed in detail. Student feedback related to the value of the model was very positive, which is particularly important at a time when many graduates are finding it difficult to obtain employment. Having overviewed the focus of this chapter and what it advances, the next section provides a discussion of the relevance of this scenario for both students and institutions of higher education.

## 14.2 The Changing Face of Graduate Employment

The decision by students to undertake tertiary study is often informed by the assumption that higher level qualifications ultimately leads to improved employment prospects. However, in Australia in 2015, only 50.4% of bachelor degree graduates in health secured full-time employment in 4 months following graduation (National Centre for Vocational Education Research, 2015). These data, and those regarding other aspects of graduate employment, including median salary, are publically available in Australia. Future students are, therefore, able to access and use this information in their decision-making when choosing degrees and universities. Previously, the employability of graduates was considered to be directly related to the technical skills and knowledge required for their chosen profession. That is, the discipline-specific skills are taught in the curricula. However, as a result of an increasingly competitive job market, there has been a shift in industry expectations of graduates from academic excellence to exhibiting high levels of non-technical workplace-specific skills (Jackson, 2014; Smith et al., 2009).

The "graduate attributes" achieved through a considered employability offering are becoming more important and are seen as a reflection of graduates' quantum economic worth to employers. Employers report to want graduates to exhibit attributes necessary for the future effective functioning of their organisation (Harvey, Moon, & Geall, 1997). In response to the increased importance for "work-ready graduates", the definition of employability has evolved from a metric indicating the number of students gaining employment to a characterisation of an ongoing developmental process relating to a set of skills and attributes that allow individuals to function effectively in the workplace. These skills and attributes include interpersonal skills, communication, teamwork, customer awareness and career self-management (Bridgestock, 2009; L. A. Harvey, 2000). The increased importance of employment as a graduate outcome and the desire of potential employers for "work-ready graduates" have led to an increase in research relating to the design and evaluation of theory-based models for increasing graduate employment skills. The next section details evidence on increasing employability skills by the integration of career development learning in academic programs, a key component of our model.

### *14.2.1 Career Development Learning and Employability*

Career development has recently gained importance in Australian universities. It is viewed as the process of managing work, leisure and transitions throughout life to assist students in determining their future in the workplace (Career Industry Council of Australia, 2006; Fallows & Steven, 2000). Enhancing career development has been demonstrated to motivate students through authentic work experiences and opportunities for career exploration (Kandiko & Mawer, 2013). Career development learning is proposed to:

> … inform, guide and assist students to critically appraise not only the world of work, but also the specific occupation they have selected…. and may be deployed to raise students' awareness of employability and how to self-manage their studies and extracurricular activities to optimise their employability (Smith et al., 2009, p. 18).

When cast in this framework, career development learning is a key component of employability and is proposed to augment work-integrated learning experiences as it moves beyond the attainment of discipline-specific skills to a more nuanced understanding of the specific profession and provides an opportunity for the development of employability skills whilst students are in a learning environment (Smith et al., 2009; Watts, 2006a). Watts (2008b) proposed that career development learning supplements the quality of work-integrated learning by placing students as the focus of these activities which assists them to be both career ready and work ready. Furthermore, career development learning can be used to enable students to prepare for work-integrated learning to enhance their learning potential; reflect on their experiences in the context of their future career, values and interests; and collate evidence of work-related experiences and proficiencies that can be used in future job applications (Moon, 2004; Watts, 2008b).

Effective career development learning is also held to facilitate the development of self-awareness, opportunity awareness, decision-making skills and transition learning (Watts, 2006b). These processes were initially developed as the DOTS (i.e. decision-making, opportunity awareness, transition learning and self-awareness) model (Law & Watts, 1977) that has been demonstrated to be an efficacious model for organising work-integrated learning experiences. Planned experiences are designed to facilitate the development of self-awareness (i.e. the ability to identify and articulate motivations, skills and personality as they affect career plans); opportunity awareness (knowledge of – and the ability to – research career-related opportunities); decision-making (being able to weigh up personal factors to make a sound plan); and transition learning (understanding of how to seek and secure opportunities). It is proposed that theoretical models for career development need to be congruent with, and encompass at a minimum, these four elements for the development of informed and sound career plans (Teaching Employability – RMIT University, 2017). The proposed learning benefits associated with the integration of this model into career development learning are presented in Table 14.1 with practical exam-

**Table 14.1** The desired learning outcomes derived from career development learning

| Career development learning outcome | |
|---|---|
| Self-awareness | Identify knowledge, abilities and transferable skills developed during one's degree |
| | Identify personal skills and how these can be deployed |
| | Identify one's interest, values and personality in the context of vocational and life planning |
| | Identify strengths and weakness and areas requiring further development |
| | Develop a self-reflective stance to academic work and other activities |
| | Synthesise one's key strengths, goals and motivations into a rounded personal profile |
| Opportunity awareness | Demonstrate knowledge of general trends in graduate employment and opportunities for graduates in one's discipline |
| | Demonstrate an understanding of the requirements of graduate recruiters |
| | Demonstrate research-based knowledge of typical degree-related career options and options in which one is interested |
| Decision-making | Identify the key elements of career decision-making, in the context of life planning |
| | Review changing plans and ideas on an ongoing basis |
| | Relate self-awareness to knowledge of different opportunities |
| | Evaluate how personal priorities may impact upon future career options |
| | Devise a short4/medium-term career development action plan |
| | Identify tactics for addressing the role of change in career development |
| Transitional learning | Demonstrate an understanding of effective opportunity search strategies |
| | Apply an understanding of recruitment/selection methods to applications |
| | Demonstrate an ability to use relevant vacancy information, including ways of accessing unadvertised vacancies |
| | Identify challenges and obstacles to success in obtaining suitable opportunities and strategies for addressing them |
| | Demonstrate capacity to vary self-presentation to meet the requirements of specific opportunities |
| | Demonstrate ability to present oneself effectively in selection interviews and other selection processes |
| | Identify challenges and obstacles to adapting successfully to new environments and strategies for addressing them |
| | Demonstrate awareness of attitudes crucial to the achievement of one's goals |

**Source:** Watts, A. G. (2006). Series 2: Career Development Learning and Employability. Learning and Employability. M. Yorke. York, United Kingdom, the Higher Education Academy

ples of each desired outcome. These four elements are proven useful in the development of modules and relevant student activities in our model. Planned experiences were designed to enhance the development of self-awareness (e.g. interests, abilities and values), opportunity awareness (e.g. knowing what work opportunities exist, as well as their requirements), decision-making skills and transition learning (e.g. job search and skill related to self-presentation). All of these factors indicate something of the complexity of identifying effective educational goals for employability whilst

highlighting the range of factors shaping the kinds of educational processes to be selected to achieve these outcomes. Consequently, there is a need to understand how best this kind of development can be integrated into the tertiary education curriculum.

Career development learning can augment the quality of work-integrated learning by positioning students as the focus of such programs and assisting students to be both career ready, as well as work ready (Watts, 2008a). Smith et al. (2009) promoted similar beliefs in regards to the value of career development learning to work-integrated learning through the integration of students' work experiences and clarification of their career plans, as well as providing a better understanding of the curriculum and relevance of academic experiences within university programs. Results of other studies have indicated that career development learning provides a meaningful experience for students through enhancing their awareness of the relationships between their disciplinary studies, work-related learning and personal aspirations and values and providing positive course satisfaction (Folsom & Reardon, 2003; McIlveen et al., 2011). A review of 46 courses that aimed to embed career development learning into the curriculum conducted in the USA indicated that 88% of the studies demonstrated positive outcomes associated with career learning. These included improved career planning and decision-making, increased autonomy and responsibility with career planning and improved occupational knowledge and vocational identity), whilst 12% reported no change (Folsom & Reardon, 2003). Furthermore, 9 of the 11 studies reported gains in persistence in studies and satisfaction with field of study and job satisfaction. Previous research evaluating the integration of career development learning into courses undertaken by undergraduate exercise science students demonstrated student-perceived benefits – improved ability to synthesise their key strengths, goals and motivations in relation to job searching; improved understanding of the requirements of graduate recruiters; and improved self-awareness of different employment opportunities – and a demonstrated understanding of job search strategies (Reddan & Rauchle, 2012). Therefore, in consideration of the demonstrated benefits of career development learning, the design of our theory-driven model emphasised the integration of these elements into the curriculum. The next section details the specific processes involved in the development and integration of a career development learning framework in postgraduate exercise science program in an Australian university.

### *14.2.2 A Model Underpinning the Integration of Career Development Learning into the Curriculum*

Career development learning aims to enhance graduate employability and, therefore, offers significant benefits to students as well as to educational institutions. To be effective, however, career development learning must be contextualised. This can be achieved by using a collaborative approach which seeks to integrate multiple

stakeholder perspectives, including students, academic staff members and industry representatives, into the development, delivery and evaluation of the learning activities (Cole & Tibby, 2013). First, key stakeholders must reach the consensus on the definition of employability/employability skills as this informs the type of learning activities developed and the methods used to evaluate the outcomes. Second, industry-relevant knowledge and skills can be identified and a gap analysis undertaken to determine the employability skills not currently addressed in the curriculum. Finally, learning activities must engage students and facilitate deep levels of learning.

High levels of student engagement are often produced by individualised learning activities. Research in the career development learning area demonstrates that individualised and personalised one-on-one interventions have the greatest benefit or influence on students' careers (Whiston, Sexton, & Lasoff, 1998). This learning method is, however, rarely used in higher education due to the high cost associated with delivering individualised programs to large student cohorts. When career development learning is delivered in a classroom, it provides greater learning outcomes compared to the online delivery of content (Whiston et al., 1998). To gain maximum benefit, classroom curricula must be engaging and actively involve students in authentic and meaningful interactive learning activities (Watts, 2006b), such as role plays, self-audits, problem-based group activities, work-integrated learning and tasks which involve providing feedback and reflection, on work objects such as resumes and portfolios (Bridgestock, 2009; Yorke & Harvey, 2005). Thus, authentic activities which engage students and facilitate deep and active learning are the hallmark of career development learning.

These principles of effective career development learning were used to develop a series of career development modules which were embedded into a postgraduate exercise science program. This program comprises a 1-year full-time postgraduate program preparing students to become an accredited exercise physiologist. Accredited exercise physiologists prescribe graded exercise therapy and lifestyle interventions for persons at risk of developing, or with existing, chronic diseases, complex medical conditions and injuries (Exercise and Sports Science Australia, 2016). Evidence specifically pertaining to employability of exercise science students was used to further develop the career development curriculum. Reddan and Rauchle (2012) found that gaining insight into professional work, enhancement of practical skills, discussion of career pathways, preparing job applications and participating in mock interviews were perceived as valued by similar cohorts of students, in terms of enhancing their employability. Similarly, Billett, Cain and Le (2016) reported that students studying health degrees (including exercise science) preferred to gain access to employability activities during or following work-integrated learning experiences. This finding is in agreement with other research in the field (Maher & Graves, 2008; Reddan & Rauchle, 2012). Billet et al. (2016) also found that the most highly valued employability activities included gaining feedback on workplace experiences, linking work-integrated learning to employability, developing skills in informed decision-making regarding career choices and learning about possible future occupations. These activities and the timing of these

activities were considered relevant by all key stakeholders in this project and thus were subsequently incorporated into the career development modules.

In summary, the key features of these postgraduate career development modules are threefold. Firstly, they were enacted during and following work-integrated learning activities (Billett et al., 2016; Maher & Graves, 2008; Reddan & Rauchle, 2012). Secondly, they were framed to assist students to better understand their career and career choices (Billett et al., 2016; Reddan & Rauchle, 2012); and, thirdly, they used authentic and meaningful interactive learning activities (Watts, 2006b) to develop specific employability skills, such as resumes and interview skills (Bridgestock, 2009; Reddan & Rauchle, 2012; Watts, 2006b; Yorke & Harvey, 2005). Having outlined the kinds and characteristics of the career education progress, the next section describes the implementation of the modules.

#### 14.2.2.1 The Workshops and Modules

Nine career development modules were developed and embedded in the graduate diploma in exercise science curriculum over a 14-week period, in a series of 5 x 3-hour workshops, each separated by 6 weeks. Figure 14.1 illustrates the timing of each workshop and lists the focus of modules contained within each workshop. The workshops occurred at a time when students also were undertaking 2 x 6-week full-time work-integrated learning placements, which were tailored towards gaining competency in key areas of clinical practice. The following paragraphs describe the content of each module and workshop and further information on their theoretical underpinnings.

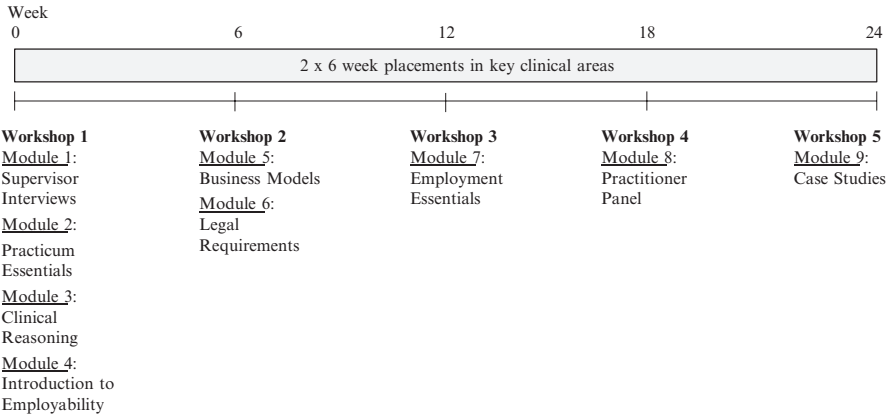


**Fig. 14.1** The Career Development Learning Program was comprised of five workshops comprised of nine modules. Each module was separated by a 6 week period. During the Career Development Learning Program, students also undertook 2 x 6-week placements conducted in key practice areas associated with exercise physiology

*Workshop 1*, the pre-practicum briefing session, occurred prior to the work-integrated learning placement and aimed to focus students' thinking on graduate employment. It consisted of four modules. *Module 1 (supervisor interviews)* focused on providing students with an in-depth understanding of the profession of exercise physiology by linking industry standards to expectations of the work-integrated learning practicum (Billett et al., 2016; McIlveen et al., 2011; Reddan & Rauchle, 2012). This module consisted of a series of online interviews of practicum supervisors who provided information on topics including the scope of their current positon, their career development and progression, knowledge and skills perceived to be important for clinical practice and career advice. Students were required to view these videos prior to commencing Workshop 1. These videos were used to provide context to the modules presented to students in person during the pre-practicum briefing and were not referred to explicitly during the remaining modules.

*Module 2 (practicum essentials)* provided students with clear expectations associated with their work-integrated learning practicum, including the assessment tasks and the process of accreditation as an exercise physiologist with the Exercise and Sports Science Australia, which aimed to bridge the gap from university-based study to learning in an authentic setting. This addressed the recommendation by McIlveen et al. (2011) that successful transition into a work-integrated learning practicum environment improves work-integrated learning outcomes.

*Module 3 (clinical reasoning)* focused on developing clinical reasoning and reflective practice skills specifically related to increasing students' decision-making and self-appraisal during the work-integrated learning practicum. Reflective practice is an important component of career development learning as it allows students to derive meaning from their experiences. Specifically it provides students with strategies to undertake self-evaluation of their knowledge, skills, interests and employability and to develop a greater depth of understanding of their profession (Graham, 1999; Lees, 2002; Warn & Tranter, 2001), which can be used to facilitate self-development of skill requirement for employment (McIlveen et al., 2011).

*Module 4 (introduction to employability)* addressed graduate employment prospects by specifically upskilling students in developing career action plans, preparing a job application and participating in the interview experience (Bridgestock, 2009; Reddan & Rauchle, 2012; Yorke & Harvey, 2005). Introducing these activities prior to the practicum provided students with the opportunity to identify curricular and extracurricular opportunities to address further skill/career development and to reflect and refine these during their work-integrated learning practicum.

***Workshop 2***, which occurred 6 weeks after Workshop 1, engaged students to think beyond graduation to their first year of work and thus aimed to educate students on the models of employment as an accredited exercise physiologist. *Module 5 (business models)* focused on entrepreneurship, particularly as it relates to exercise physiology, and provided context to exercise physiology being a marketable commodity (Peterman & Kennedy, 2003). Entrepreneurship topics included primary care/exercise physiology business structures, the basics of business planning, marketing environments and metrics of success. In addition, *Module 6 (legal requirements)* focused on the practical aspects of an exercise physiology practice,

including insurance requirements and types, legal requirements for consent, record keeping and communication, sources of litigation and risk management strategies associated with exercise physiology (Kolber & Lucado, 2005).

***Workshop 3*** *(Module 7 employment essentials)* focused on the development of employability skills through a range of authentic learning activities such as resume writing, addressing selection criteria, participating in mock interviews, undertaking professional networking and developing an e-portfolio. This workshop occurred 6 weeks after Workshop 2, after all students had undertaken at last 1 x 6-week full-time work-integrated learning practicum. The timing of this workshop provided students with the opportunity to synthesise this information with their newly developed exercise physiology knowledge, skills and competencies. Thus, students built upon their work-integrated learning practicum learnings and experiences (Bridgestock, 2009; Yorke & Harvey, 2005) which contributed to the development of their professional identity as an exercise physiologist (McIlveen et al., 2011).

***Workshop 4*** *(Module 8 practitioner panel)* contextualised employability skills to the profession of exercise physiology, as contextualisation of generic skills has been shown to encourage students to consider their workplace learning more explicitly and reflectively whilst supporting and reinforcing the content provided (Litchfield, Frawley, & Nettleton, 2010). This module included a facilitated discussion with a panel of exercise physiologists who work in diverse settings and focused on career paths, continuing professional development, selection process for employees, common errors made in job applications, perceptions of future practice as an exercise physiologist and advice for graduates.

***Workshop 5*** *(Module 9 case studies)* aimed to establish a community of practice, as this is a frequently used method in health for generating and sharing knowledge and improving organisational performance (Ranmuthugala et al., 2011). Successful communities of practice are defined by three dimensions: joint enterprise (a shared or common endeavour); mutual engagement (the interactions that lead to the shared meaning); and development of shared resources including techniques, tools, experiences or process and practice. Communities of practice are proposed to provide a means for knowledge to cross boundaries and to generate and manage a body of knowledge for members to draw on and as a means for innovation in ideas, knowledge and practices (Ranmuthugala et al., 2011). In this context, a community of practice was developed through case-based learning, with the case being derived from students' work-integrated learning practicum experiences. Cases needed to have been perceived by the student to have contributed to the development of their clinical competencies.

This section presented information on the aim and theoretical underpinnings of the nine career development modules which were delivered in 5 x 3-hour workshops. Lesson plans for each of the workshops were also presented to provide detailed information on each learning activity, the resources and time required for each activity. A summary of the module aims staffing and resource requirements, and delivery method is presented in Table 14.2. The following section links the aim of each module to the manner in which the module was evaluated to determine its effectiveness.

**Table 14.2** Overview of the module aims, format and staff and resource requirements for the Career Development Learning Program conducted

| Workshop | Module | Aim | Format | Staff and resource requirements |
|---|---|---|---|---|
| Workshop 1 | Module 1: supervisor interviews | To provide an understanding of exercise physiology and placement requirements prior to engaging in work-integrated learning practicum | 5 x 10 min videos:<br>Key professional practice areas<br>Student-practitioner transition<br>Elements of effective clinical practice | 5 x exercise physiologists who represent key practice domains |
| | | | | Filming and editing resources to produce online videos |
| | Module 2: practicum essentials | To provide clear expectations on work-integrated learning and the requirements for professional accreditation | 1 x 1 h presentation:<br>Work-integrated learning practicum (behavioural expectations, assessment items strategies for maximising engagement, outcomes)<br>1 x 1 h presentation:<br>Gaining professional accreditation | Presentation by Clinical Practicum Convenor and/or presenter familiar with exercise physiology accreditation |
| | Module 3: clinical reasoning | To provide a framework and worked case studies on developing clinical reasoning and reflective practice skills for decision-making and self-appraisal during the work-integrated learning practicum | 1 x 1 h presentation and workshop:<br>Engaging in clinical reasoning and reflective practice and writing | Staff member with knowledge in evidence-based clinical reasoning and reflective practice models |
| | Module 4: introduction to employability | To provide an introduction to the principles associated with improving graduate employment | 1 x 2-h presentation and workshop:<br>Activities relating to developing career action plans, preparing job applications and the interview process | Staff member with experience in implementing strategies to improve graduate employment prospects |
| Workshop 2 | Module 5: business models | To introduce the principles of entrepreneurship, basics of business management and marketing | 1 x 2 h presentation:<br>Principles of marketing, business structures and models<br>Starting a business<br>Strategies for evaluating success and avoiding common mistakes | Staff member with knowledge in business models and marketing and an understanding of the healthcare sector |
| | Module 6: legal requirements | To provide information on the practical aspects of exercise physiology practice, particularly relating to duty of care and recording requirements | 1 x 1 h presentation:<br>Professional indemnity<br>Client consent, record keeping and confidentiality<br>Litigation and risk management | Staff member with knowledge in the legal requirements of exercise physiology practice, duty of care and liability |

| | | | | |
|---|---|---|---|---|
| Workshop 3 | Module 7: employment essentials | To provide an opportunity for further development of strategies to improve graduate employment (follow-up from module 4) | 1 x 3 h interactive workshop:<br>Responding to selection criteria and evaluating resume<br>Mock interviews<br>Self-promotion (e.g. e-portfolios) and networking | Staff member with experience in implementing strategies to improve graduate employment prospects |
| Workshop 4 | Module 8: practitioner panel | To provide a practice-specific context to the activities undertaken in the career development learning activities | 3-h practitioner panel and workshop:<br>Work environments<br>Career plans and professional development<br>Desired employee attributes<br>Future trends in exercise physiology practice | Current practicing exercise physiologists, from a variety of practice areas, who are engaged in hiring graduates |
| | | To provide students with exposure to practising accredited exercise physiologists | | Experienced facilitator |
| Workshop 5 | Module 9: Case Studies | To develop a community of practice where students share knowledge and skills developed during work-integrated learning practicum | 5-min student presentations on a client they provided a clinical service to during work-integrated learning practicum | Experienced facilitator to promote student engagement and discussion |
| | | | The student audience is encouraged to ask questions and a facilitator identifies and discusses broad practice themes that arise (e.g. working with difficult patients; working with complex conditions; identifying treatment priorities) | Projection capabilities to enable students to present data, pictures or clinical notes |

### *14.2.3 Effectiveness of the Career Development Learning Program*

It is important to evaluate educational experiences, so as to understand how effective the career development learning program has been in meeting the needs of this particular student cohort. The following sections describe and justify the methods of evaluation and detail the survey findings and deductions drawn from the survey data.

#### 14.2.3.1 Methodological Approach

The Career Development Learning Program was evaluated from the students' perspective using a custom-designed survey that comprised a range of outcome measures. The survey is divided into three sections. Section 1 consists of ten Likert scale questions evaluating the degree to which each of the nine modules was considered to improve perceived employability, as well as an item requesting students to rate the overall effectiveness of the program. Respondents were asked to evaluate how each module improved their employability, using a scale of 1 to 5 (1, "strongly disagree"; 2, "disagree"; 3, "neutral"; 4, "agree"; and 5, "strongly agree"). These responses provide an evaluation of the content and processes used in each module in contributing towards improved perceptions of employability. Students were then requested to identify modules they considered to be the most and least important for the purpose of improving their employability and provide the reason(s) for these choices, in addition to providing comments regarding their perceptions of the Career Development Learning Program. Section 2 aims to secure data on the number and types of extracurricular activities students engaged in by selecting from a preset list or an option to input activities not included in the list and identification of the activities which were considered most beneficial in relation to enhancing employability. The third section seeks feedback on additional activities and/or resources that would be of value to the program, so as to guide future program development. The information from Sections 2 and 3 is important to identify the processes and content that students considered helpful, which otherwise may not be gathered through the use of quantitative methods, such as the Likert scales used.

The survey was administered immediately after participating in the Career Development Learning Program. Descriptive statistics were used to describe participant demographics and the distribution of the responses to the Likert scale, binary (e.g. least or most important) and preset list/option questions. Thematic analysis was used to explore the responses to the open-ended survey questions. NVivo data analysis software (QSR International Pty Ltd) was then used to manage the qualitative data, and two researchers were involved in the process of open to selective coding to create themes for further inquiry. Responses from participants were coded broadly in the first instance to provide an overview of the response, with a secondary hierarchal analysis applied to ascertain key themes. These key themes

provided insights into the effectiveness and impact of the Career Development Learning Program from the students' perspective and to identify key modules and outcomes and areas for improvement. Differences of opinions on the deconstruction, interpretation and reconstruction of data were resolved through discussion and consensus gain by all researchers (Braun & Clarke, 2006), as is reported in next section.

#### 14.2.3.2 Survey Outcomes and Interpretations

The students who provided data comprised the entire 2016 cohort of the postgraduate exercise physiology program (n = 20; 9 men and 11 women). All informants were full-time domestic students, with an average age of 25 years (range 22–38 years). The majority of students (75%) had enrolled in the program immediately following the completion of an undergraduate degree in exercise science or an equivalent degree. Half the students had previously engaged in career development learning activities, which were mainly embedded in their undergraduate degree. Prior to enrolling in the current program of study, half the students had undertaken paid work experience in the field of health, fitness and exercise science, with 90% of this work in the personal training and group fitness domains.

With reference to Section 1 of the survey, and in relation to the effectiveness of the program, students reported that they found value in the Career Development Learning Program (mean rating of 4.5 out 5). The students reflected that the content and structure of the program facilitated an increased knowledge of employment opportunities and employability skills which, in turn, increased their preparedness for gaining employment. Figure 14.2 illustrates the student responses relating to the degree to which each of the nine modules was considered to improve perceived employability. At least 66% of respondents provided a positive rating (4 or 5) for every module. Module 2 (practicum essentials encompassing the requirements for completing work-integrated learning practicum successfully and meeting the accreditation requirements for the profession) and Module 3 (clinical reasoning encompassing the principles of reflective practice and clinical reasoning) received ratings of 4 (agree) or 5 (strongly agree) from all respondents, whilst Module 8 (practitioner panel) received the largest proportion (77%) of the highest rating (5 – "strongly agree").

Indeed, the latter finding is reinforced by the students' ranking of the most and least important modules in relation to the program's objectives of enhancing employability, illustrated in Fig. 14.3. A clear outcome of the program evaluation was the benefit of Module 8 (practitioner panel), with 85% of students rating this module as amongst the most important for improving their perceived employability (Fig. 14.3). Furthermore, 45% of respondents valued Module 7 (employment essentials) as most important. Responses relating to the perceived importance of these modules suggest that students found them beneficial for learning about generic employability strategies (e.g. in Module 7 employment essentials), particularly from individuals who are currently working in the field or potential employers

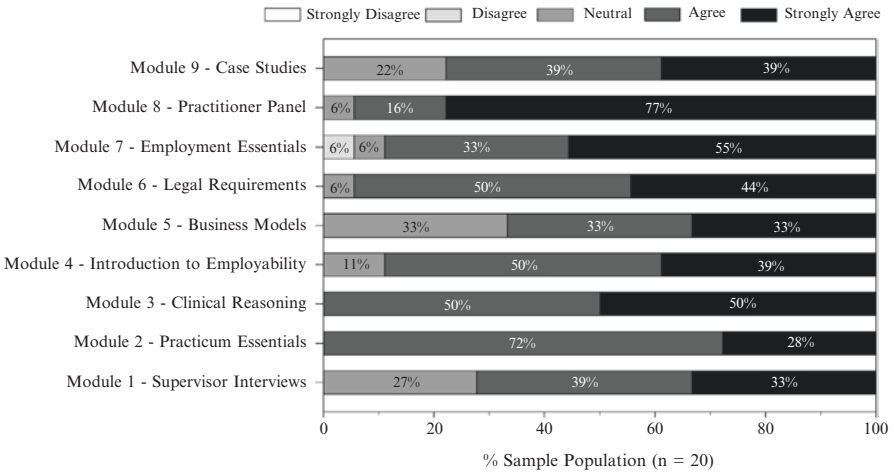


**Fig. 14.2** Responses relating to the degree to which each of the nine modules that comprised the Career Development Learning Program was considered to improve perceived employability. Respondents were asked to rate their agreement to the following statement: "[module title] improved my employability" for each module using a Likert scale of 1 to 5 (1, "strongly disagree"; 2, "disagree"; 3, "neutral"; 4, "agree"; and 5, "strongly agree")

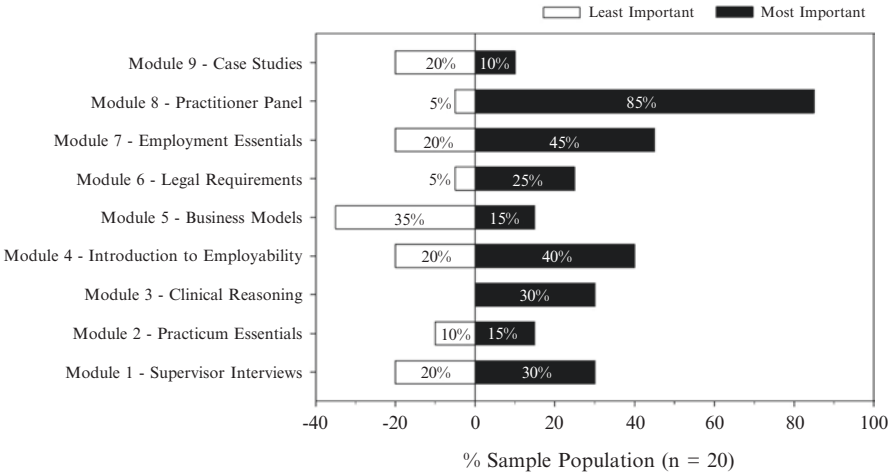


**Fig. 14.3** Responses relating to the importance of each of the nine modules regarding improving employability. Respondents were asked to select modules that were perceived to be of high and low importance for the purpose of improving their employability

(Module 8 practitioner panel). A selection of quotations from respondents illustrates this point:

> I found these topics the most effective as you not only learnt about employability strategies in general, but also heard from people working in the field and their experiences and expectations (Practitioner Panel; Employability Essentials).

> The Exercise Physiology panel discussion was a really valuable experience as it gave an insight into the work force and what employers from the field look for in a resume/interview (Practitioner Panel).

The survey responses, in this respect, support existing evidence indicating that effective career development learning includes the active involvement of employers and industry representatives through direct contributions to programme development and delivery and to identify and include factors that rank high in an employer's priority (Watts, 2006b). Consequently, this program would have benefited from including industry representatives in the design of the program, as ultimately they will employ these students and have a nuanced understanding of industry requirements. Additional opportunities for engagement of industry experts includes contributing to the definition of career management skills, the production of course materials and contribution to workshops, particularly those relating to recruitment and the selection processes for employment (Watts, 2006b). Course work activities of relevance that could be integrated into the curriculum include the provision of case studies in which the career history and decision-making of high-profile industry experts are documented to map the progression of their career and skill sets (McIlveen et al., 2011).

Module 5 (business models and basics of marketing) received the greatest proportion (33%) of "neutral" student responses in terms of improving employability and was also perceived to be the least important of the modules. Examination of the qualitative responses provided by the students suggests that the above ratings may be influenced by the perception of a student's short-term career direction or goal. For instance, some illustrative quotes are as follows:

> I just felt that it didn't relate to me and my current goals for my career. In the future, I may want to start a business and this would be relevant; but at the current time, I felt that I didn't take on board the advice as much because I'm not in that frame of mind (Business Models and Basics of Marketing).

> The presentation on business models was also interesting, but I did not feel it was very helpful in improving my employability, although for those thinking about starting their own business soon it may have been more applicable to them (Business Models and Basics of Marketing).

In contrast:

> Essentially, I would like to work for myself and run my own business. Hearing from others who have already done/are doing this, helps me to understand what is required to do so (Business Models and Basics of Marketing).

Thus, these informants suggest that it is important to contextualise the career opportunities within the discipline in future iterations of the program, thereby providing immediate relevance to the information presented, e.g. providing employment statistics per setting, such as in contractual or sole-trader environments. Real-world examples of typical career trajectories could be used to demonstrate the dynamic nature of employment in the discipline, where employability could be represented along a continuum, mapping knowledge and skills required immediately following

graduation (e.g. career skills) through to mid-career (business skills). These refinements could support the strengthening of the business module.

Analysis of the findings from the third component of the program evaluation suggested that the business module would benefit from containing strategies relating to commercialisation of students' current business ideas and the use of a "shark tank" forum to pitch business ideas to industry experts. Suggestions specific to the development of the business module are presented below:

> While these sessions provided me with some information I think that promoting commercialisation of the business ideas that students have and facilitating out of the box thinking may help to a higher degree when it comes to practical application. The conversations I had with lecturers about business ideas and potential avenues to follow was my greatest asset during this time, and I cannot thank them enough for the time they gave.

> Perhaps more in depth information regarding the requirements when opening up a business i.e., costs, legalities, frameworks, remuneration, provision of statistics

> Perhaps more shark tank style business propositions may assist in getting future students to think about gaps in the market and how they could utilise this.

One theme that emerged through the analyses of the data is the influence of the personal characteristics of students – that is, their previous work and industry experience – on the perceived effectiveness or importance of the modules and the program overall. Only 50% of the students who completed this program had participated in paid work in the fields of health, exercise science or fitness prior to undertaking the program. Distinct differences were evident in the program evaluation by students who had worked in related fields or have been independently employed, compared to those with limited work and industry experience, particularly when evaluating the benefits of core employability (e.g. resume writing, networking, etc.) and career development skills (e.g. business models, marketing, etc.). Irrespective of the differences in perceived relevance of the modules, respondents identified the value of the content, particularly for those with little or no prior work experience:

> These presentations were still good for a review, but I found them less important as I have already been working for 16 years so my experience had taught me most of what was presented here (Introduction to Employability; Employment Essentials).

> Having already worked as a sole trader and having education in business, I found this not helpful. But for young graduates, I feel it is essential for them to gain an understanding of how it all works in the real world (Introduction to Employability; Employment Essentials; Business Models and Basics of Marketing).

The distinction in perceived effectiveness and importance of these activities was also influenced by 50% of participants in the program having previously engaged in career development and/or employability activities or accessed career services. For example:

> For me, I didn't gain too much from it, having done previous studies on employment and employability in my undergrad program (Introduction to Employability; Employment Essentials).

These findings indicate that differences in the student's engagement with industry and career development services can influence their perceived effectiveness or importance of the program. These differences could be addressed through including activities that demonstrate key issues of sustainability of graduate employment and allow students to map their possible career progress, therefore providing relevance to the activities irrespective of the students' experience (Watts, 2008a). Activities that could be integrated into coursework to allow students to understand their career development and progression, and therefore the relevance of curriculum activities, could include students conducting research into the employment market for their particular discipline or conducting interviews with industry recruiters (McIlveen et al., 2011). Additionally, peer mentoring or learning could be used to create links between students with different levels of experience. This is particularly the case when the student cohort comprises high levels of relevant work experience.

The influence of interpersonal factors on the perceived effectiveness or importance of the program is consistent with evidence indicating that personal factors such as self-concept, self-esteem, personality, aptitudes, age, skills, interests, values and work knowledge can influence perceived experiences in career development learning (Patton & McMahon, 2006). Additionally, career-related self-efficacy, occupational decidedness, interests and personality traits have been shown to be predictive of academic performance and engagement (Brown et al., 2008; Sandler, 2000; Scott & Ciani, 2008). These results support the active involvement of students in the design and delivery of career development learning programs, for example, a systematic consultation with students through the use of surveys or focus-group discussions whilst designing programs and the use of immediate student feedback in reviewing programs or modules, contacting former students who engaged in career development learning programs after graduation to provide long-term feedback and involving graduates in the delivery of modules to current students in order to demonstrate relevance (Hustler et al., 1998; Watts, 2006b).

#### 14.2.3.3 Extracurricular Activities: Patterns of Engagement and Perceived Benefit

The activities included in the modules were derived from evidence regarding best practice for career development learning. To gain an understanding of activities, students may find beneficial for inclusion in the career development learning program; a survey was undertaken of the number and type of extracurricular employability activities undertaken by the students whilst concurrently enrolled in the Career Development Learning Program. Table 14.3 lists the range of extracurricular employability activities that students identified. The majority of students (85%) had undertaken extracurricular activities including networking, additional work experience and attendance at educational seminars.

Students reported that the most effective extracurricular activities, in terms of increasing their employability, were those that provided an understanding of their

**Table 14.3** Number and type of extracurricular employability activities participated in by students who were concurrently undertaking the Career Development Learning Program

| Extracurricular activities | N (%) |
|---|---|
| Networking | 11 (55) |
| Engaged in additional work experience | 10 (50) |
| Engagement in educational seminars | 8 (40) |
| Engagement with professional body (e.g. ESSA) | 5 (25) |
| Peer mentoring | 5 (25) |
| Professional mentoring | 5 (25) |
| Engagement in additional tertiary study | 4 (20) |
| Engagement in practice-based courses | 3 (15) |
| Additional engagement with employment-related services | 3 (15) |
| Development of an e-portfolio | 1 (5) |

chosen profession and career, in particular job opportunities and employment pathways, as well as improved theoretical and practical knowledge:

> The most beneficial would be volunteering and helping out in the industry that you are interested in. I hear stories all the time of people, when networking and asking how did you get into the job, responding that they were volunteering and had the skills they needed to get a paying job in the end, or that their name was referred to another organisation that hired them (Additional Work Experience; Networking).

> I believe having the ability to share ideas/opinions/feedback among fellow students, as well as professionals, has played a big part in my ability to grow into a future practitioner; being able to gain an understanding on more than what I believe is crucial for development to ensure that what I know and am doing are correct, as well developing areas of knowledge that are weak and require further attention (Professional and Peer Mentoring).

The quality and strength of these responses indicate that an evaluation of the extracurricular employability activities undertaken by the students could assist in identifying opportunities to integrate these employability activities into the Career Development Learning Program. Furthermore, the integration of these activities could improve the relevance of the program to students, particularly in the context of their chosen career pathway. The following section offers reflections of the delivery of the career development learning modules in this postgraduate program.

### *14.2.4 Reflections on the Lessons Learnt When Integrating a Career Development Learning Program*

Career development learning continues to emerge as a component of the broader employability conversation in the education sector (Watts, 2006a). The present work serves to further contribute to the intellectual foundations for career development learning being a requisite component of employability and the rationale for the integration of career development learning into curriculum elements relating to

work-integrated learning. Additionally it promotes the case for career development learning to couple with post work-integrated learning practicum student activities. Whilst the results of our work, outlined in this chapter, relate specifically to the integration of career development learning into the graduate diploma of exercise science degree program, our results provide a compelling theoretical basis for the integration of career development learning into the post work-integrated learning practicum activities of similar health programs of study.

Based on the learnings acquired during the development, implementation and evaluation of this Career Development Learning Program, a model has been developed to assist educators to implement similar archetypes within curricula (Fig. 14.4). Two key themes emerged from the outcomes of this study regarding program development which have contributed to the characterisation of the exemplar model. The first emergent theme is the inclusion of activities designed to increase knowledge regarding employment opportunities and skills for gaining employment. This is consistent with evidence that indicates interventions which assist students to explore possible future career directions are effective in promoting the relevance of employability and its associated benefits to students (Watts & Hawthorn, 1992). The second emergent theme relates to increased professional and industry-related knowledge. Evidence seen in student work-integrated learning practicum experiences showing scaffolding of propositional-to-practice occupational knowledge being a highly valued feature of placement (Billett et al., 2016) provides a rationale for its inclusion in the Career Development Learning Program model.

Other key components of the model include consideration of the student- and profession-specific variables and involvement of students and industry stakeholders for the development of the program. This allows for the development of a program that reflects current industry practice and the attributes of the students undertaking the program. When designing a program, the context of the degree requires consideration. Degree programs that have broader career outcomes may benefit from an additional emphasis on the range of possible career outcomes and career pathways available to graduates. Career development learning has been demonstrated to be effective for fostering first year undergraduate students' engagement with their studies by assisting them to explore their decision to enter the discipline, which in turn is proposed to positively impact student retention and progression (Kahn, Nauta, Gailbreath, Tipps, & Chartrand, 2002; Palmer & Bray, 2002).

The understandings arising from this Career Development Learning Program suggest that module development should relate to the intended employability objectives. Improved program employability outcomes can be generated through targeting the factors of increasing knowledge of employment opportunities and industry-specific knowledge both of which are highly regarded by students. In an increasingly competitive employment landscape, students are viewing the value of particular higher education offerings and their quantum graduate employment rankings as an economic driver (Tymon, 2013). Students are increasingly seeing the potential utility of soft credentials, the skills developed supernumerary to the standard curricular, in projecting an individualised narrative in a congested market. With the economy of experience assuming an elevated position in the hierarchy of

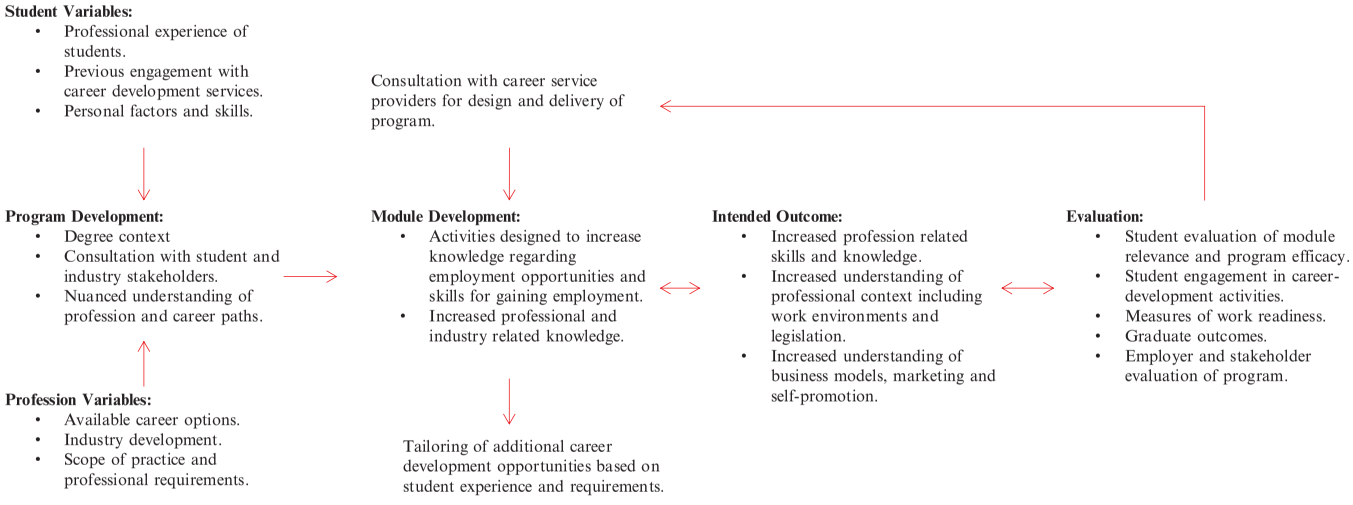


**Fig. 14.4** A model for the design of a career development learning program. Key components of the model include consideration of the student- and profession-specific variables and involvement of students and industry stakeholders for the development of the program. Module development should relate to the intended outcomes of the program for improving employability through increasing knowledge regarding employment opportunities and industry-specific knowledge. Regular evaluation of programs is necessary for ensuring their currency and relevance

employability in the mind of the student, a nuanced delivery of skills through a career development learning model is seen of greater value. Identification of these factors important to students could be undertaken through focus groups or surveys evaluating key employability-specific factors discussed in this chapter.

Evaluation of a program is necessary for ensuring its currency and relevance and could include surveys on the modules included, published measures with evidence of psychometric properties for determining work readiness or consultation with key industry experts. The evaluation data gained, in addition to providing an understanding of extracurricular activities perceived to be important to students, could also be used to evolve program modules. The key principle underpinning the success of career development learning is the tailoring of the program to profession-specific components. A successful tripartite relationship between student, higher education institutions and employers in developing the career development program should enhance the employability of graduates.

A considered reflection of the research undertaken suggests that the embedding of career development learning into curricular at the time of work-integrated learning practicum activities is supported by students. It is envisaged that the following summary of the key findings and outcomes will assist other programs in the development of career development learning models that are tailored to specific degrees, as well as student experiences, needs and interests.

## 14.3 Chapter Summary: Key Findings and Outcomes

The findings of this research clearly indicate a positive student response to integrating a career development learning framework into post-practicum debrief sessions. In summary, there were six important findings from this study. Firstly, theoretically, key components for the development of a program included consideration of the degree, student and profession-specific variables and involvement of students and industry stakeholders. Inclusion of these variables produces a program which is relevant to both the students and industry stakeholders, with the proposed benefits of producing graduates who are "career ready". Secondly, career development learning programs can be integrated into a curriculum using existing relationships in the university environment; e.g. the use of pre-existing career development services is proposed to provide best-practice strategies for promoting the attainment of graduate employment; and the engagement of representatives from a school of business provided up to date evidence regarding effective business management and marketing that can be applied to the practice of exercise physiology. Thirdly, participants' perceptions of the importance and value of career development learning programs were very positive, with activities such as practitioner panels, clinical reasoning and employment-seeking workshops perceived to improve employability-related skills. Analysis of the participant's reflections on the importance of these activities demonstrated that activities geared towards improving a student's understanding of their chosen profession and skills for gaining employment in this

profession were highly valued. Fourthly, extracurricular activities undertaken by participants indicated that structured opportunities for networking, professional development and additional work experience were perceived to be beneficial. From a program development perspective, this information can be used to continue to develop a Career Development Learning Program that is responsive to student need, that is, the formal integration into the program or the development of a "suite" of extracurricular opportunities. Fifthly, through analyses of qualitative and quantitative responses relating to the Career Development Learning Program evaluation, it was determined that module development should relate to increasing knowledge regarding employment opportunities and industry-specific knowledge to address students' perception of employability. Finally, regular evaluation of programs is necessary for ensuring their currency and relevance. Evaluation of the program has the proposed benefits of identifying strategies associated with improved employment outcomes, higher stakeholder engagement (including student and industry representatives) and the development of a career development program that is responsive to student experience, profession changes and industry need. Moreover, the approach adopted here – of situating the Career Development Learning Program in post-practicum debrief sessions – permits students to reflect more deeply upon their recent clinical practicum experiences and contextualise or integrate the knowledge gained from the program with their recent practicum experiences.

In all, it is proposed that the information presented in this chapter provides a model for the development, implementation and evaluation of a Career Development Learning Program that can assist educators to implement similar evidence-based programs within their curricula.

## References

Billett, S., Cain, M., & Le, L. (2016). Augmenting higher education students' work experiences: Preferred purposes and processes. *Studies in Higher Education*, 1–16. https://doi.org/10.1080/03075079.2016.1250073

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Bridgestock, R. (2009). The graduate attributes we've overlooked: Enhancing graduate employability through career management skills. *Higher Education Research and Development, 28*(1), 31–44.

Brown, S. D., Tramayne, S., Hoxha, D., Telander, K., Fan, X., & Lent, R. W. (2008). Social cognitive predictors of college students' academic performance and persistence: A meta-analytic path analysis. *Journal of Vocational Behavior, 72*(3), 298–308.

Career Industry Council of Australia. (2006). *Professional standards for Australian career development practitioners*. Melbourne, Australia: Author.

Cole, D., & Tibby, M. (2013). *Defining and developing your approach to employability: A framework for higher education institutions*. Heslington, UK: The Higher Education Academy.

Exercise and Sports Science Australia. (2016). *Accredited exercise physiologist scope of practice*. Hamilton, Australia: Exercise & Sports Science Australia.

Fallows, S., & Steven, C. (2000). Building employability skills into the higher education curriculum: A university-wide initiative. *Education and Training, 42*(2), 75–83.

Folsom, B., & Reardon, R. (2003). College career courses: Design and accountability. *Journal of Career Assessment, 11*, 421–450.

Graham, C. M. (1999). Career development needs of university engineering students. *Australian Journal of Career Development, 8*(3), 3–7.

Harvey, L., Moon, S., & Geall, V. (1997). *Graduates' work: Organisational change and Students' attributes*. Birmingham, UK: Centre for Research into Quality.

Harvey, L. A. (2000). New realities: The relationship between higher education and employment. *Tertiary Education and Management, 6*(1), 3–17.

Hustler, D., Ball, B., Carter, K., Halsall, R., Ward, R., & Watts, A. G. (1998). Developing career management skills in higher education. In *NICEC project report*. Cambridge, UK: Careers Research and Advisory Centre.

Jackson, D. (2014). Testing a model of undergraduate competence in employability skills and its implications for stakeholders. *Journal of Education and Work, 27*(2), 220–242.

Kahn, J. H., Nauta, M. M., Gailbreath, R. D., Tipps, J., & Chartrand, J. M. (2002). The utility of career and personality assessment in predicting academic progress. *Journal of Career Assessment., 10*(1), 3–23.

Kandiko, C. B., & Mawer, M. (2013). *Student expectations and perceptions of higher education*. London: King's Learning Institute.

Kolber, M., & Lucado, A. M. (2005). Risk management strategies in physical therapy: Documentation to avoid malpractice. *International Journal of Health Care Quality Assurance, 18*(2), 123–130.

Law, B., & Watts, A. G. (1977). *Schools, careers and community: A study of some approaches to career education in schools*. London: Church Information Office.

Lees, D. (2002). *Graduate employability-literature review*. New York: LTSN Generic Centre.

Litchfield, A., Frawley, J., & Nettleton, S. (2010). Contextualising and integrating into the curriculum the learning and teaching of work-ready professional graduate attributes. *Higher Education Research and Development, 29*(5), 519–534.

Maher, A., & Graves, S. (2008). *Graduate employability: Can higher education deliver?* Newbury, UK: Threshold Press Ltd.

McIlveen, P., Brooks, S., Lichtenberg, A., Smith, M., Torjul, P., & Tyler, J. (2011). Career development learning frameworks for work-integrated learning. In S. Billett & A. Henderson (Eds.), *Developing learning professionals: Integrating experiences in university and practice settings*. Dordrecht, The Netherlands: Springer.

Moon, J. (2004). Series 4: Reflection and employability. In M. Yorke (Ed.), *Learning and employability*. York, UK: Learning and Teaching Support Network.

National Centre for Vocational Education Research. (2015). *Government-Funded Student Outcomes: Graduate Employment Outcomes (unpublished data)*: Graduate Careers Australia, Adelaide: Australia.

Palmer, S. R., & Bray, S. (2002). An exercise to improve career understanding of commencing engineering and technology students. *Australian Journal of Career Development, 11*(2), 38–44.

Patton, W., & McMahon, M. (2006). *Career development and systems theory: Connecting theory and practice*. Rotterdam, The Netherlands: Sense Publishers.

Peterman, N. E., & Kennedy, J. (2003). Enterprise education: Influencing students' perceptions of entrepreneurship. *Entrepreneurship Theory and Practice, 28*, 129–144.

Ranmuthugala, G., Plumb, J. J., Cunningham, F. C., Georgiou, A., Westbrook, J. I., & Braithwaite, J. (2011). How and why are communities of practice established in the healthcare sector? A systematic review of the literature. *BMC Health Services Research, 11*, 273–289.

Reddan, G., & Rauchle, M. (2012). Student perceptions of the value of career development learning to a work-integrated learning course in exercise science. *Australian Journal for Career Development, 12*(1), 1–27.

Sandler, M. (2000). Career decision-making self-efficacy, perceived stress, and an integrated model of student persistence: A structural model of finances, attitudes, behavior, and career development. *Research in Higher Education, 41*(5), 537–580.

Scott, A. B., & Ciani, K. D. (2008). Effects of an undergraduate career class on men's and women's career decision-making self-efficacy and vocational identity. *Journal of Career Development, 34*(3), 263–285.

Smith, M., Brooks, S., Lichtenberg, A., McIlveen, P., Torjul, P., & Tyler, J. (2009). Career development learning: Maximising the contribution of work-integrated learning to the student experience. *Final Project Report.* University of Wollongong. Careers Central. Academic services Division.

Teaching Employability – RMIT University. (2017). *Career development learning framework: DOTS model*. Retrieved from http://www.graduate-careers.org/2016/03/21/dots-model/

Tymon, A. (2013). The student perspective on employability. *Studies in Higher Education, 38*(6), 841–856.

Warn, J., & Tranter, P. (2001). Measuring quality in higher education: A competency approach. *Quality in Higher Education, 7*(3), 191–198.

Watts, A. G. (2006a). *Career development learning and employability*. Retrieved from http://aces.shu.ac.uk/support/staff/employability/resources/id592_career_development_learning_and_employability.pdf

Watts, A. G. (2006b). Series 2: Career development learning and employability. In M. Yorke (Ed.), *Learning and employability*. York, UK: The Higher Education Academy.

Watts, A. G. (2008a). *Career development learning and work-integrated learning: Some synthesising reflections*. Paper presented at the National Symposium on Career Development Learning: Maximising the Contribution of Work-integrated Learning (WIL) to the Student Experience., Melbourne, Australia.

Watts, A. G. (2008b). Career guidance and public policy. In J. A. Athanasou & R. van Esbroeck (Eds.), *International handbook of career guidance*. Dordrecht, The Netherlands: Springer.

Watts, A. G., & Hawthorn, R. (1992). *Careers education and the curriculum in higher education*. Cambridge, UK: Careers Research and Advisory Centre.

Whiston, S. C., Sexton, T. L., & Lasoff, D. L. (1998). Career-intervention outcome: A replication and extension of Oliver and Spokane (1988). *Journal of Counseling Psychology, 45*, 150–165.

Yorke, M., & Harvey, L. A. (2005). Graduate attributes and their development. *New Directions for Institutional Research, 128*, 41–58.

# Part IV
# Summaries and Syntheses: Towards Models of Effective Practice

# Chapter 15
# Curriculum and Pedagogic Principles and Practices for Implementing Post-practicum Interventions


**Stephen Billett**

## 15.1 Implementing Post-practicum Experiences

This chapter draws upon and synthesises the contributions and findings from the 12 studies which report and discuss specific post-practicum interventions within the healthcare sector, as have been presented in this edited volume. The overall purpose is to identify purposes, principles and practices associated with curriculum and pedagogies and their interrelationships to understand further how to effectively and purposefully utilise post-practicum experiences. In doing this, a concern is to identify and evaluate the particular educational purposes that these interventions have sought to achieve through the use of specific curriculum and pedagogic practices. It is intended that this review will assist the enactment of the provision of these interventions in progressing in an informed and intentional way within tertiary education. Included in this review of these projects is a consideration of (i) the focus of their interventions, (ii) the specific post-practicum strategies that comprise these interventions, (iii) the educational and learning process issues that arose through their enactment, (iv) the outcomes achieved and (v) bases which might be secured for improvement. This review includes consideration of how students come to engage in these activities and for what purposes, identified as being central to their learning, as reported earlier (Billett, Cain, & Le, 2017) and elaborated in this volume (Cain, Le, & Billett, 2018). The bases of these engagements – what is referred to as students' personal epistemologies – are central to how they come to participate in and learn through activities and interactions in which they engage at work and through their tertiary studies. This includes how they reconcile those two sets of experiences, which is so central to their learning from both of these sets of experiences, and how, together, they contribute to the individual's learning.

S. Billett (✉)
Griffith University, Brisbane, Australia
e-mail: s.billett@griffith.edu.au



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_15

Commencing with a consideration of the range of purposes identified in these 12 contributions and from other sources, a review of the kinds of curriculum considerations (i.e. the sequencing, ordering and kinds of experiences) and also pedagogic practices (i.e. the means by which these experiences have been enriched) is then provided and aligned with particular kinds of educational purposes. The objective is to identify principles and practices that might be utilised within tertiary education and across a range of disciplines to support the effective use of post-practicum experiences. It is proposed that, conceptually, considerations of the 'experienced curriculum' (i.e. what students come to experience and learn) need to be considered within what is planned (i.e. the 'intended curriculum') and what experiences are being provided through these interventions (i.e. 'enacted curriculum'). Earlier studies appraising work-integrated learning arrangements (Billett, 2011, 2015a) indicated that to optimise the educational benefits of practicum experiences requires (i) preparing students prior to their engagement in practicums, (ii) supporting them during their practicums and (iii) identifying ways to enrich those experiences once students have completed their practicums. From these studies, particularly, rich learning experiences were identified as those arising through engaging students in considering, sharing, comparing and contrasting what they had encountered in their practicums. By this stage, students have had authentic experiences of occupational practices in action and have experienced the circumstances of their enactment. As a consequence, they are well positioned to actively evaluate what they have experienced in a relatively informed way (Billett et al., 2017). That appraisal can occur through processes they can share and compare with peers and/or their teachers or workplace supervisors (e.g. clinicians) or engage in processes such as writing journals and reflective logs where they are able to review their experiences and those of other students. It is a range of such interventions that are evident in the contributions made in this edited volume, and which are the subject of the discussions under appraisal here.

The earlier work sets out some initial findings about curriculum and pedagogic practices (Billett, 2015a). Experiences in work settings can assist students in learning the kinds of occupational goals and processes that are important for their transition to effective practice and employability. Yet, those experiences can be diverse and varied in quality, because the activities and interactions in which students engage are the product of the particular requirements of work practice, not predetermined by educational intents. Therefore, these experiences require means for learners to mediate them so as to secure effective and comprehensive learning and educational outcomes. Not least is this for them to understand something of the diverse goals and processes of the enactment of the same occupation. This is something that can often best arise through processes of sharing with peers and comparing each other's experiences in a structured way, to direct considerations and appraisals towards the range of circumstances in which their occupation is practised and to learn something of the variations in performance requirements. Importantly, it is necessary to emphasise that learning processes are not hybrid or reserved for experiences organised through particular institutions (e.g. universities). Instead,

learning is something that arises through thinking and acting, whatever the context of the physical circumstance.

However, if that thinking and acting can be augmented in productive ways and can be directed towards the intended outcomes of students' experiences, these outcomes are likely to be richer and far more effectively directed towards achieving intended outcomes. In this way, augmenting students' workplace experiences through post-practicum interventions has the potential to achieve these kinds of educational objectives. In particular, the ability for students to articulate, share, compare and critique those experiences is likely to lead to informed and adaptable outcomes through means that are structured and focused and can go beyond what can be achieved through students' own mediated experiences (i.e. their zone of potential development), as has been identified in this volume (Grealish et al., 2018; Harrison, Molloy, Bearman, Ting, & Leech, 2018; Levett-Jones, Cortney-Pratt, & Govind, 2018; Noble et al., 2018; Rogers, Parker-Tomlin, Clanchy, & Townshend, 2018). Yet, whether experiences alone or processes of augmentation are being considered, the learning process needs to be interdependent, rather than independent or dependent. That is, learners need to be engaging actively with, and being informed by, the contributions of activities and interactions in which they think and act. Ultimately, experiences provided by educational programs and in work settings are nothing more than invitations to change; it is the learners who decide how and for what purposes they take up that invitation.

Hence, finding ways of engaging students, placing them in the 'driver's seat' and supporting their construal and construction of what is provided for them will be central to the success of educational programs and interventions. It is for this reason that some of the contributions to this volume have emphasised the importance of positioning a student in this way (Cardell & Bialocerkowski, 2018; Harrison et al., 2018; Noble et al., 2018; Steketee, Keane, & Gardiner, 2018).

## 15.2 Approach

The approach adopted in generating the findings presented and recommendations advanced in this chapter was to review the 12 studies of interventions contributed in this volume in terms of (i) their focus (i.e. purpose), (ii) the strategy or intervention used, (iii) issues arising through the enactment of the intervention, (iv) the kinds of outcomes that were identified and (v) suggestions for how these interventions might be improved. These key points were those that were used as headings in reports provided by each of these projects, which were then shared with the others during the development phase of this teaching and learning project. A synthesis of each of these elements as advanced in these chapters was tabulated and used as a platform for drawing out key findings and generating a summary of their contributions to the discussion of these five key points. In turn, the sections below address each of these points.

## 15.3 Purpose of Interventions

As discussed in the opening chapter, and based on Dewey's stated purpose of education for occupations, the broad educational reasons for engaging students in post-practicum interventions that seek to utilise and integrate their experiences in work settings are of three kinds (Billett, 2018). These are those associated with (i) informing students about their suitability for their preferred occupations, (ii) developing their capacities to practice their selected occupation and (iii) developing capacities associated with being able to learn across working life in interdependent but independent mediated ways. In terms of the first purpose, two of the studies intentionally structured experiences to assist students in coming to understand pathways into occupations, helping them appreciate how the occupations are enacted (Clanchy, Sabapathy, Reddan, Reeves, & Bialocerkowski, 2018; Kirwan, Tuttle, Weeks, & Laakso, 2018). In their chapter, (Sweet et al., 2018) also discuss how post-practicum interventions provide a vehicle for assisting midwifery students in understanding work and career trajectories.

A number of contributions to this volume specifically address the second purpose of assisting in developing the capacities for students to practice their selected occupation. Levett-Jones et al. (2018) focus on developing clinical reasoning skills through instructional and assessment interventions; Steketee et al. (2018) seek to intentionally extend medical students' clinical knowledge through engaging medical students in a modified debriefing process to discuss, share and compare clinical experiences. Developing the ability to work interprofessionally is the aim of the chapter by Rogers et al. (2018), and Sweet et al. (2018) intervention was aimed at generating midwifery students' critical and strategic thinking processes to initiate care for patients in uncertain circumstances. Grealish et al. (2018) sought to promote strategies for nurses to develop shared understanding or intersubjectivity and conceptual understanding for effective nursing practices. In the field of speech pathology, Cardell and Bialocerkowski (2018) sought to develop self-awareness, self-efficacy, resilience and positive occupational identities. To understand the requirements of and processes for community nursing, (Newton & Butler, 2018) engaged students in the production of videos to capture the scope and breadth of community nursing work. A similar aim was exercised by Williams and colleagues to draw together, consolidate, contrast and compare the range of work experiences undertaken by dietitian students (Williams, Ross, Mitchell, & Markwell, 2018).

For the third purpose, developing lifelong learning capacities (Noble et al., 2018) focussed on responses to feedback and so enacted an intervention for students to develop self-assessment capacities to respond productively to feedback. Harrison et al. (2018) sought to develop habits of professional engagement that would prepare medical students to initiate and engage in these activities across their professional working lives as practising doctors. Similarly, the processes to prepare midwifery students as critical and strategic practitioners (Sweet et al., 2018) had the ability to inform their ongoing professional learning in their future careers in healthcare.

Much of the emphasis across these three broad educational goals is on employability. Here, employability is taken as having the capacities required for employment, securing initial employment and sustaining that employment across working life, which is reflected in the three educational purposes stated above. In this way, educational interventions can seek to address purposes associated with employability such as (i) developing occupationally specific capacities, (ii) identifying and securing situational-specific capacities and (iii) developing capacities for practitioners to engage in and mediate their ongoing learning and possibly that of others.

More specifically, some educational purposes that have been identified for participation in post-practicum activities are to:

- Discuss experiences during placement that you found worthwhile/interesting/confronting.
- Link what is taught at university to practice.
- Learn more about preferred occupation.
- Learn about other students' experiences during their practicum.
- Learn how preferred occupation is practiced across different work settings.
- Secure feedback on your workplace experience.
- Align work experiences with course work and assessments.
- Identify how these experiences can make you more employable.
- Make informed choices about career, work options or specialisations.
- Make choices about selection of subsequent courses/majors
- Improve the experience for the next cohort of students (Billett, 2015a).

An alignment between this list of specific educational purposes for the initial occupational preparation and the contributions to this monograph are presented in Table 15.1. These contributions include smoothing the transition to employment, including providing insights into the kinds of work activities the students have not directly experienced yet might be expected to be aware of upon being employed. Then, there was also the important lifelong learning goal of preparing graduates to be active and intentional in their personal practices supporting their ongoing learning. Being active and agentic in practicum situations, purposefully engaging with practice experiences and integrating them within their coursework, hopefully establishes personal habits and practices that support ongoing development associated with employability in the longer term. So, more than being about the teaching of content associated with the particular occupation, there are considerations about the requirements for practice and how they vary across work settings (hence, preparing for effective transitions), and also preparing students to be effective in directing and managing their learning across lengthening working lives.

The focus of these projects is on how post-practicum interventions can be used to support students' learning as directed towards employability, as is captured in this listing. Employability includes securing and sustaining employment.

Beyond these broad purposes, and as discussed in Chap. 1 (Billett, 2018) and elsewhere (Billett, Harteis, & Gruber, 2018), there are three forms of domain-specific knowledge that underpin effective occupational performance that, more specifically, become the focus for educational provisions. Those forms of knowledge

**Table 15.1** Educational purposes and project focuses

| Educational purposes | Project lead |
|---|---|
| Discussing experiences during placement students found worthwhile/interesting/confronting | Harrison, Stecketee, Williams, Grealish, Cardell |
| Linking what is taught at university to practice | Levitt-Jones, Williams, Sweet, Cardell |
| Learning more about preferred occupation/specialisms | Clancy, Kirwan, Williams, Cardell |
| Learning about other students' experiences during their practicum | Harrison, Stecketee, Williams, Grealish, Cardell |
| Learning how preferred occupation is practiced across different work settings | Harrison, Stecketee, Williams, Grealish, Cardell |
| Securing feedback on your workplace experience | Noble |
| Linking work experiences with course work and assessments | Noble, Rogers, Newton, Levitt-Jones, Sweet |
| Identifying how these experiences can make you more employable | Clancy, Kirwan, Grealish, Cardell, Noble |
| Making informed choices about career, work options or specialisations | Clancy, Kirwan, Newton, Stecketee |
| Making choices about selection of subsequent courses/majors | Clancy, Kirwan, Newton, Stecketee, Harrison |

together encompass what those practicing that occupation need to know (i.e. conceptual knowledge), do (i.e. procedural knowledge) and value (i.e. dispositional knowledge). Occupational standards and national curricula often attempt to capture this domain of knowledge. It can be seen as being the canonical knowledge required to practice that occupation and what all of those who undertake that practice would be expected to demonstrate in practicing it. However, a particular issue for the practising of an occupation is that its performance requirements vary across the diverse circumstances of its practice (e.g. different healthcare settings) and their needs. So, the particular kinds and combination of knowledge, and the requirements for performance, vary across the work settings in which this knowledge is deployed. In this way, the actual requirements for performance are quite situational. Therefore, beyond the canonical domain of occupational knowledge is that required for effective work performance in a particular healthcare setting where graduates will find employment and need to demonstrate competence and advance their careers. Therefore, an important goal for work integrated education is to provide opportunities for students to develop not only the canonical knowledge of the occupation but also some experiences and possibly interventions to illuminate and assist them in understanding some of the diversity in how the occupation is practised and its performance requirements. That is, ensuring their personal domain of knowledge (i.e. what they know, can do and value) addresses both the canonical and situational dimensions of practice.

Indeed, developing students' personal domain of professional knowledge becomes important here. Whilst these two domains of knowledge exist in the social world, ultimately it is the domain of occupational knowledge that individuals

construct themselves that shapes what they know, can do and value (Billett et al., 2018). Therefore, these are the kinds of domain-specific knowledge that students need to access and construct as they generate their personal domain of professional knowledge. Higher education programs that are seeking to prepare its graduates for occupational roles need to provide experiences to assist students develop those capacities. Moreover, it is likely that specific pedagogic practices are required to develop these forms of knowledge. As set out in Chap. 1, these three kinds of knowledge are:

- Domain-specific conceptual knowledge – 'knowing that' (Ryle, 1949; Sun, Merrill, & Peterson, 2001) (i.e. concepts, facts, propositions – surface to deep) (e.g. (Glaser, 1989; Greeno & Simon, 1988; Groen & Patel, 1988)
- Domain-specific procedural knowledge – 'knowing how' (Donald, 1991; Ryle, 1949) (i.e. specific to strategic procedures) (e.g. (Anderson, 1993)
- Dispositional knowledge – 'knowing for' (i.e. values, attitudes) related to both canonical and situated instances of practice (e.g. (Perkins, Jay, & Tishman, 1993); includes criticality (e.g. (Mezirow, 1981))

Each of these three kinds of domain-specific knowledge has its own qualities (e.g. specific and strategic procedures, factual to complex conceptual premises, personal and institutional dispositions) that have arisen through history and that have cultural relevance and situational pertinence (Billett, 2003). When humans think and act, they use all three forms of this knowledge together and interconnectedly. Procedures are deployed when thinking, concepts are what is used to organise and direct thinking and acting, and dispositions shape how both procedures and concepts are deployed and monitored. However, the sources and processes of developing these three kinds of knowledge are quite distinct. Basic factual information can be learnt from books or interactions with others (Pea, 1993; Sun et al., 2001). However, links and associations between concepts likely arise from having experiences of a particular kind (Groen & Patel, 1988). Equally, procedural skills need to be initially developed and then practised and honed so that they can be used successfully (Anderson, 1982). Moreover, strategic procedures also arise through repertoires of experiences from which individuals can learn (Stevenson, 2001). Dispositions are often shaped by the experiences that people have had and their reactions to them, and it is these that shape how they think and act (Cleland, Leaman, & Billett, 2014; Perkins et al., 1993; Prawat, 1989). These forms of knowledge are likely developed by individuals through their opportunities to engage in and construct personal domains of this occupational knowledge through accessing and engaging in a range of experiences.

Table 15.2 below sets out the key focus for each of the projects presented in this volume and the kind or kinds of knowledge that are privileged in the particular focus for each of these projects. What can be seen is that each of these projects has quite distinct emphases on one or more of these forms of knowledge. This is not to say that all three forms of knowledge and different levels of that knowledge will be engaged in these projects, but the stated intent reflects concerns to develop specific forms of that knowledge.

**Table 15.2** Alignment between project focus and kinds of knowledge

| Project lead | Focus | Forms of knowledge targeted in project |
|---|---|---|
| Levett-Jones | Improving clinical reasoning | Procedural and conceptual |
| Rogers | Assisting develop understandings about and the capacities to work interprofessionally | Conceptual and procedural |
| Harrison | Utilising and extending students' clinical knowledge | Procedural, conceptual and dispositional |
| Kirwan | Enhancing students' ability to communicate attributes to potential employers | Procedural and conceptual |
| Sweet | Developing abilities to critically appraise clinical cases | Procedural and conceptual |
| Grealish | Developing capacities to co-work | Procedural and conceptual |
| Steketee | Utilising and extending students' clinical knowledge | Procedural, conceptual and dispositional |
| Cardell | Developing students' professional identity, self-efficacy and resilience in addressing non-routine work tasks | Dispositional |
| Williams | Developing further student's understandings of their occupational practice | Conceptual |
| Noble | Developing students' feedback literacy in workplace situations | Conceptual |
| Clancy | Development of students' self-awareness, opportunity awareness, decision-making and transitional learning capacities | Conceptual, procedural and dispositional |
| Newton | Developing abilities to critically appraise clinical cases | Procedural |

This listing also offers another way of indicating the intentions of these projects. So, whereas the listing in Table 15.1 could be seen as a set of overall aims or goals, those listed in Table 15.2 offer a finer grain of educational intents. That is, they have focuses on particular forms of knowledge. In many instances, educational interventions have been introduced to address the development of particular knowledge that is seen to be hard to learn or hard to access. Educational efforts to mediate access to, and the development of, particular forms of knowledge are, therefore, far from new. Indeed, there is often, and quite rightly, strong alignment between particular pedagogic practices and the development of specific knowledge. All of this is informed by the fundamental understanding that education provisions and practices should be intentional and should be directed towards achieving specific outcomes. This needs for alignment between intentions and processes to realise those outcomes then leads to a consideration of the kinds of strategies that have been adopted in these projects and as directed towards these purposes and specific forms of knowledge.

### *15.3.1 Post-practicum Strategies*

Across the projects described separately and discussed collectively in this chapter, a range of different kinds of strategies were trialled to secure intended outcomes and achieve specific purposes. As can be seen in Table 15.3, these strategies variously comprise the use of assessment tasks, small-group interactions amongst students (i.e. professional exchanges, learning circles, clinical and post-practicum debriefings), written tasks in the form of preparing resumes and appraisals of practicum experiences, interview preparation, workshops, personalised feedback and production of video clips. So a variety of strategies has been adopted in these projects and

**Table 15.3** Post-practicum strategies and projects

| Project lead | Post-practicum strategy |
|---|---|
| Levett-Jones | *Assessment task* using patient healthcare scenarios focused on pressing students into 'deep thinking' about clinical scenarios and options through oral examination |
| Rogers | *Written assessment* appraising interprofessional practices students observed during practicums comprising (i) description of team work, (ii) e.g. effective collaborative practices, (iii) e.g. ineffective collaborative practices and (iv) suggestions to improve interprofessional working |
| Harrison | Structured approach for students' *professional exchanges*, comprising (i) a number of students' circles, (ii) small peer-led groups w/o direct teacher facilitation and (iii) relatively open-ended discussion topics on recent events during clinical practice |
| Kirwan | Assisting students in the *written and interview* components of applying for employment through mock job application processes |
| Sweet | *Reflective writing* on students' clinical experiences to develop reflective practices, using a structured approach based on prompting students' responses when writing |
| Grealish | *Structured learning circles* accommodated students' readiness and engaged them in shared analyses of practice experiences through group discussion |
| Steketee | Augmenting learning during clinical rotations through *structured clinical debriefing tutorials* for students to share, compare and appraise experiences and complexities of clinical practice |
| Cardell | *Post-practicum workshop* organised and enacted by students emphasising (i) retrospection, (ii) self-evaluation and (iii) reorientation, augmented by a collaborative learning strategy of students developing personal perspectives on issues that were shared with a peer and group |
| Williams | *Face-to-face reflective post-practicum debriefs which* assisted students who worked in relative social isolation to integrate and synthesise personal experiences in a supportive learning environment |
| Noble | Intervention provided *personalised feedback* comprising (i) online primer, (ii) workshop and (iii) subsequent activities to support students' self-evaluation of their placement and to seek, receive, share and compare feedback with peers |
| Clancy | *Workshops comprising resume writing, interviews and networking* with distinct focuses on briefings prior to work placements, how students might engage in practicum circumstances and post-practicum promoting immediate employment |
| Newton | *Students contributed short video clips* to a web-based interface to share their practicum experiences and as a vehicle for developing critical reflective capacities |

for particular educational purposes, as indicated in that table. Common across all of these projects is a concern for engaging students in particular ways and for particular educational purposes, that is, intentional efforts to engage students to achieve particular kinds of learning outcomes. And universally, the selection and trialling of particular strategies to achieve these particular purposes arise from concerns that without these kinds of interventions, those educational outcomes may not be achieved. Hence, there are often clear intentions and alignments between particular educational problems and the selection of strategies to address those problems, with the common concern to augment students' practicum experiences and direct their thinking and acting in ways aligned with particular educational purposes.

In Table 15.4, the concerns set out in the previous three tables are brought together to identify alignments amongst focus (i.e. broad purpose), specific forms of knowledge being targeted for development (i.e. educational goals or objectives) and interventions (i.e. strategies) selected to secure all those intentions.

This tabulation is provided to indicate and emphasise the importance of alignments across these three related sets of educational considerations.

## 15.4 Issues for Implementation in Higher Education

From the accounts provided in these chapters and as presented in Table 15.4, crucial implementation issues emerged during the enactment of these post-practicum strategies. Identifying such issues is important because it is necessary to understand how best such interventions should be enacted and what factors shape their enactment. In particular, factors that either support or inhibit the enactment of these interventions need to be delineated and understood to assist them be enacted effectively. Through reviewing these chapters, four sets of issues were delineated: (i) students' readiness to engage in these interventions, (ii) managing student engagement, (iii) considerations about both voluntary and compulsory activities and (iv) the social and psychological environment in which these interventions were enacted. Whilst undoubtedly not exhaustive, these issues are discussed in turn here.

### *15.4.1 Readiness*

Readiness comprises learners' abilities and interest in engaging and learning productively from particular experiences (Billett, 2015b). That is, whether they have the existing conceptual, procedural and dispositional knowledge to fruitfully engage and learn from the experiences they encounter in work and educational settings and, thereby, realise the intended outcomes. For instance, if students are totally new to a work environment and their practicums are at the commencement of their studies, then they may lack the readiness to fruitfully learn through these experiences. Instead, rather than learning what is intended, these experiences might be

**Table 15.4** Alignment between project focus and kinds of knowledge

| Project | Focus | Knowledge targeted | Intervention strategy |
|---|---|---|---|
| Levett-Jones | Improving clinical reasoning | Procedural and conceptual | Assessment task using patient healthcare scenarios focused on pressing students into 'deep thinking' about clinical scenarios and options through oral examination |
| Rogers | Assisting develop understandings about and the capacities to work interprofessionally | Conceptual | Written assessment appraising interprofessional practices students observed comprising (i) description of team work, (ii) e.g. effective collaborative practices, (iii) e.g. ineffective collaborative practices and (iv) suggestions to improve interprofessional working |
| Harrison | Utilising and extending students' clinical knowledge | Procedural, conceptual and dispositional | Structured approach for students' professional exchanges, comprising (i) a number of student circles, (ii) small peer-led groups w/o direct teacher facilitation and (iii) relatively open-ended discussion topics on recent events during clinical practice |
| Kirwan | Enhancing ability to communicate attributes to potential employers | Procedural and conceptual | Assisting students in the written and interview components of applying for employment through mock job application processes |
| Sweet | Developing abilities to critically appraise clinical cases | Procedural, conceptual and dispositional | Reflective writing on students' clinical experiences to develop reflective practices using a structured approach to prompt students' responses when writing |
| Grealish | Developing capacities to co-work | Procedural and conceptual | Structured learning circles accommodated students' readiness and engaged them in shared analyses of practice experiences through group discussion |
| Steketee | Utilising and extending students' clinical knowledge. | Procedural, conceptual and dispositional | Augmenting learning in clinical rotations through structured clinical debriefing tutorials for students to share, compare and appraise experiences and complexities of clinical practice |

(continued)

**Table 15.4** (continued)

| Project | Focus | Knowledge targeted | Intervention strategy |
|---|---|---|---|
| Cardell | Developing students' professional identity, self-efficacy and resilience to address non-routine work tasks. | Dispositional, conceptual and dispositional | Post-practicum workshop organised and enacted by students emphasising (i) retrospection, (ii) self-evaluation and (iii) reorientation, augmented by a collaborative learning strategy of students developing personal perspective on issues that were shared with a peer, and group |
| Williams | Developing further student's understandings of their occupational practice | Conceptual, conceptual and dispositional | Face-to-face reflective post-practicum debrief assisted students who worked in relative social isolation to integrate and synthesise personal experiences in a supportive learning environment |
| Noble | Developing students' feedback literacy in workplace situations | Conceptual, conceptual and dispositional | Intervention provided personalised feedback comprising (i) online primer, (ii) workshop and (iii) subsequent activities to support students' self-evaluation of their placement and to seek, receive, share and compare feedback with peers |
| Clancy | Developing students' self-awareness, opportunity awareness, decision-making and transitional learning capacities | Conceptual, procedural and dispositional | Workshops comprising resume writing, interviews and networking with distinct focuses on briefings prior to work placements, how students might engage in practicum circumstances; and post-practicum promoting immediate employment |
| Newton | Developing abilities to critically appraise clinical cases | Procedural | Students contributed short video clips to a web-based interface to share their practicum experiences and as a vehicle to develop critical reflective capacities |

overwhelming and lead to dissonance, rather than to effective learning. Hence, there are issues associated with student readiness and the kind of experiences provided for them. One way of addressing this issue is to provide opportunities that are commensurate with their level of readiness and which offer mechanisms to build on that level. For instance, an opportunity in which they might initially observe practice in action, or attend meetings where the occupation is discussed first, may assist them to develop a level of readiness to engage in more demanding activities. Without having the concepts associated with what is being discussed or experienced, the procedures to helpfully utilise those interactions and the interest to do so, then immersion in authentic work activities in busy healthcare settings may simply be too much too soon. That readiness is particularly important when it is anticipated that the students will learn specific knowledge from particular activities, albeit in the education or workplace setting. It also needs to be remembered that in work settings, students will likely mediate their own learning, because there can be no guarantee that others

will be available or in a position to mediate that knowledge for them via explanation or modelling.

If students lack readiness to engage in particular activities, what was intended is unlikely to be achieved. Problem-solving activities might become guessing games; group activities might become individually focused attempts to contribute; and activities based on assumptions about students' existing knowledge may become flawed. Consequently, and particularly in circumstances where students are positioned as solely mediating their learning, the degree of readiness to engage in the activities is crucial. For instance, the assessment tasks set for nursing students (Levett-Jones et al., 2018) were similar to those in which they have previously engaged. As a consequence, students were familiar with these activities, and the assessment tasks provided fresh scenarios and prompting by teachers, which added novel dimensions to this way of augmenting the students' practicum experiences. This is referred to as managing the cognitive load of educational experiences (Kirschner, 2002) to facilitate effective learning. Hence, because the students were familiar with part of the task, they were able to effectively manage novel aspects of those tasks and thereby build upon what they knew, could do and valued. The new requirements were not, therefore, overwhelming, as might have been the case if students were unfamiliar with this process, but sat within their zone of potential development (Cole, 1985).

In the (Sweet et al., 2018) project, students from two universities were engaged in reflective writing tasks, yet only one of these universities had provided similar experiences to these students earlier. As a consequence, this task was quite unfamiliar and was a challenge for students from the second university, compared with those from the first. In the first university, it was a requirement that all students had to engage in a reflective development process that was used to prompt and structure their reflective writing activities. As a consequence, the students at this university could manage this task quite successfully and productively, and their cognitive resources could be directed towards engaging in learning through the novel aspects of the task in which they engaged. However, students from the second university had to engage in an entirely new pedagogical process (i.e. reflective writing) whilst also seeking to engage with the intended focus of the intervention. As a consequence of this lack of readiness, support was required for the cohort from the second university, so that the students could come to understand and engage effectively in the critical writing task. The point is that for students to effectively use this kind of intervention, they have to have the capacity to utilise it before engaging with it effectively. So, when the students were asked to engage with two new tasks simultaneously, one of which was the focus of the intended learning outcomes, these may not have been realised as effectively because the students were not ready to engage in the process focused on that activity. In this way, familiarity and competence with the actual pedagogic process were a prerequisite for effective learning.

In a similar way, the chapter trialling the use of feedback (Noble et al., 2018) also found that students' ability to engage effectively with feedback was quite limited (i.e. you cannot rely on it). That is, the students were not ready to engage in appraising feedback. This group of researchers concluded that students should have the

capacity to engage in these processes, and they should not be merely integrated in their programs without support and guidance. As a consequence, they created an environment in which students were provided with experiences in how to engage effectively with feedback prior to participating in the intervention itself.

As a consequence, student readiness stands as an important basis for the successful use of these interventions. If a particular kind of intervention is being used to promote learning, as was the case in the chapter by Newton where students had to construct videos, unless the students were competent in with medium required (e.g. making videos, reflective logs), then the learning associated with the intended outcomes may be limited because students have been directing their efforts to learnings that are not directly associated with the course. However, as with the oral assessments, reflective processes are required to be learnt. All this suggests that not only is understanding something of students' readiness required, but also consideration should be given to how that readiness is aligned with not only what is intended to be learnt but the means selected to promote that learning.

### *15.4.2 Managing Student Engagement (i.e. Time-Jealous Students)*

Managing student participation and engagement with these interventions proved to be a key challenge for a number of the projects and in ways that are quite instructive. Put simply, engaging students in activities which they might view as being extracurricular and not part of their assessable program of study is an increasing challenge for those teaching in higher education. The key issue is that contemporary higher education students are often 'time jealous'. That is, they have a range of conflicting demands upon their time which include paid part-time work, friends' and family commitments, along with their studies (Billett, 2015a). As a consequence, they are often highly selective about how they direct their time and energy. Programs with work placements add another element that consumes their time and resources. Sometimes this element of the program is not part of their assessment or is not seen as being central to students' progress within their courses. Consequently, they may view a work placement as being a lesser priority than course elements that are assessed. Of course, it is these kinds of programs that these projects represent and in which interventions of different kinds were being piloted. Nearly all of those interventions that sit outside of directly assessable items encountered difficulty in encouraging engagement by students. Even some interventions that were deemed to be highly successful (Harrison et al., 2018) but which were voluntary had difficulty securing and sustaining engagement by and interaction with students. Factors here include how students perceive these activities. Hence, a different term was used to describe these essential interventions. So, in this project, it was decided to avoid the words 'reflection' and also 'learning circles' as these terms would inhibit student engagement. Interestingly, the processes used in this project, although having

similar qualities to the above-mentioned processes, were deemed by students to be highly effective. However, even feedback from students who deem these processes as highly effective does not necessarily guarantee that they will engage in them subsequently. For instance, despite the processes used by (Cardell & Bialocerkowski, 2018) being judged as highly satisfactory by students, less than half of them indicated that they would engage in a subsequent activity of the same kind in the future.

Other projects (e.g. (Grealish et al., 2018; Newton & Butler, 2018) reported considerable difficulty in securing student participation, even when incentives were offered. For instance, Newton and Butler (2018) reportedly had considerable difficulty in securing engagement by students, particularly in an activity that was not obviously related to their assessment tasks and required particular sets of skills and time to enact (i.e. producing a video clip). Repeated efforts to engage with students were frustrated, and students had many queries and questions about the approach. There were also some technical difficulties associated with students' access to the website. Students were given an incentive ($50 gift card) to participate. A total of 6 (ultimately, 8) students out of 54 engaged in this activity. Even those accepting the incentive were sometimes parsimonious in the kind and extent of their engagement in this task. The point is that forced or reluctant participation is unlikely to lead to students engaging in the kind of thinking and acting that is conducive of the higher-order outcomes (e.g. deep conceptual knowledge, strategic procedures) that can potentially be realised through such experiences.

Not all issues associated with student engagement were negative. Many projects referred to successful engagements and outcomes from students' participation. Indeed, in one project (Cardell & Bialocerkowski, 2018) the concern was that students were progressing too quickly and in ways that were difficult to manage. This was particularly the case when there was a sharing activity with the entire group. This caused problems with timing, organisation and advancing experiences in intended ways. Yet, given the demands upon students and their strategies to manage these demands means that the risk is that only tasks associated with assessment are likely to attract the kinds of engagements required by students to deeply learn.

This concern then leads to a consideration of whether these activities should be voluntary or compulsory.

### *15.4.3 Voluntary or Compulsory Activities*

A conundrum is whether activities such as these interventions should be made compulsory so that students are required to engage or left voluntary so that students engage only of their own volition and as motivated by their interests. Broadly, whilst making activities compulsory means that students engage with them, the basis of the compulsion is usually that they are assessed. Whilst this is often helpful and constructive, the great concern is that students will respond to the tasks in ways shaped by the assessment, and, ultimately, this may well constrain the potential of their engagement and learning. That is, with processes such as providing reflective

logs, responses to feedback and critical accounts, students may elect to respond to the assessment criteria more than what they experienced, concluded or actually believed to be the case (Sweet & Glover, 2011). On the other hand, if the activities are voluntary, then not all students will engage with them, and, indeed, there may well be fairly small numbers taking up these invitations. Again, participation in these circumstances might also be influenced by students who volunteer, seeking to curry favour with their teachers. Also, if experience is deemed necessary, it should be included for all students. For instance, (Clanchy et al., 2018) used a process that involved the entire year cohort, albeit that only constituted 20 students because the interventions they provided were essential for all the physiotherapy students to be prepared for practice after graduation. Similarly, (Rogers et al., 2018) and (Levett-Jones et al., 2018) made their interventions compulsory because they were part of the student assessment activities, and both of these studies reported that students positively engaged.

Perhaps the best option is to have activities which students find inherently interesting and would wish to engage in either as part of assessment or outside of it. For instance, medical students are deemed to be very time jealous and, in previous activities, were seen to only engage in those they were pressed into. Nevertheless, (Harrison et al., 2018) enjoyed considerable success with their intervention because the students found it worthwhile and interesting, and they were provided with a safe and secure environment in which to discuss the aspects of their clinical experience that they found interesting and others found worthwhile. In this circumstance, as the teachers were not directly involved in the students' discussion, they (i.e. students) reported that they could share stories about errors that had made or seen and which were of interest to the other students within a group of confidants.

Even in this seemingly successful intervention, not all students volunteered to engage, and some who did were not particularly supportive of the intervention; however, the majority were. Importantly, it is unlikely that an educational intervention which all students are willing to engage in and find helpful and express appreciation for will ever be identified and enacted. Another example of a compulsory, structured intervention in which students engaged effortfully was the structured case presentation that (Steketee et al., 2018) enacted. In this intervention, there was a high level of student involvement; they identified and enacted the structured case presentation as identified by themselves and which they engaged in generating responses. Beyond this case presentation was also an opportunity for students to compare and contrast their experiences and discuss them with peers.

So, it can be concluded that under any circumstances, having experiences that students find relevant and they can contribute to may secure the best and most effortful kinds of engagements. Similarly, compulsory activities which are associated with assessment may need criteria that are carefully crafted so as to be aligned with the kind of outcomes intended and be open to the likelihood of students being most influenced in their responses by those criteria.

### *15.4.4 Safe Environments in Which to Share*

One issue identified across a number of the projects was the quality of the environment in which students could come together to share, compare and contrast their experiences. Having a safe (i.e. confidential) environment was an important factor, not only to encourage and engage students but also to shape the progress of interventions. For instance, in the circumstances in which medical students wanted to discuss learning through errors (Harrison et al., 2018), it was important that they had a safe and supportive environment that included minimal intervention by teachers. That is, it was organised by the students and participated in the form of small groups of students. These groups appeared to permit a diversity of levels and kinds of engagement by the students and were able to accommodate different student needs, at least to some degree. That is, the environment and the activities that comprised the student-led component of the intervention were shaped by the scope of what students wanted to discuss, and how those discussions would progress.

Similarly, with the dietetics program (Williams et al., 2018), a series of small group interactions was provided for initial debriefing sessions and discussions of two or three critical incidents. Quite deliberately, these groups were structured to be small and intimate to assist students in overcoming the difficulties they faced in being relatively socially isolated within their practicums. In essence, the concern was to have a supportive environment that would allow them to share their experiences in a way that would be conducive for that sharing and the provision of responsible and responsive feedback. The imperative for the educators was to provide participant comfort and an environment in which openness was exercised by the students. In another medical education intervention (Steketee et al., 2018), effort was similarly exercised to ensure the small group activities were collegial and supportive, and this was the key role undertaken by the teachers, rather than intervening in the discussions students were having about cases.

Yet, there can also be an issue when students lead processes and there may well be potentially adverse outcomes for some or all students. Hence, there is a need for careful management of these experiences, as the studies above indicate. In the speech therapy intervention (Cardell & Bialocerkowski, 2018), the process of managing the student engagement of this kind was almost compromised by students themselves wishing to press on with the activity. The idea was for small groups to hold intimate discussions and then for issues to be advanced and made available to the entire group. The teachers' concerns arose when students want to move too quickly into open disclosure of experiences, which for some students may have been too quick and potentially confronting.

In all, these four sets of issues (i.e. readiness, engagement, having voluntary or compulsory activities and the quality of the environment) were identified as being salient for the effective implementation of these interventions. This then leads to a consideration of the outcomes that were realised through these interventions.

## 15.5 Outcomes

From the sets of findings reported in the contributions to this volume, it is possible to categorise the outcomes in terms of those associated with educational learning processes and those associated with outcomes in the form of knowledge learnt by students (see Table 15.5). Both of these sets of outcomes are important. Ultimately, the concern within this edited monograph is to identify how learning can be enhanced by augmenting students' practicum experiences after they have been undertaken. As a consequence, outcomes associated with the processes that were enacted and with which students engage are important. Moreover, being able to identify the kinds of learning outcomes that have arisen is also helpful, in particular when it is possible to associate particular activities with particular learning outcomes. It follows then that in the next two sections, the process and learning outcomes are discussed in turn.

### *15.5.1 Process Outcomes*

Engaging students in activities that represent a more authentic approach to the tasks they will need to do upon being employed in their preferred occupation was deemed to have a number of benefits. For instance, nursing students reported that oral examinations were now better than assignments in demonstrating their ability to engage in clinical reasoning, as this approach more closely replicated what they would need to do in practice.

One set of arrangements which emerged from these studies as being successful was when there was a combination of interventions with students comprising an element that was structured, followed by one that allowed students to initiate and discuss issues that were relevant to them. For instance, Harrison et al. noted that providing a particular experience that all students engaged in, and then subsequently providing an opportunity where they could discuss specific experiences (i.e. including errors they had made) through small group interactions, was engaging and effective. Steketee et al. (2018) reported a similar outcome. In that case, a clinical rotation debrief was subsequently augmented by students engaging in small groups discussions about experiences they found interesting during their recent practicums. Important in both of these instances was the structure provided by the educator, which included an element that was a presentation and discussion of topic aligned with the course, followed by student-initiated and student-led interactions. In this study, the students reported that the opportunity for them to articulate, discuss and share perspectives effectively augmented their clinical rotations. Indeed, activities that pressed students into declaring or articulating their ideas and sharing them with others are reported as having positive learning outcomes. This is because they require students to be active, make decisions and engage in judgements and processes such as justifying and extending what they know, can do and value. One of

**Table 15.5** Project outcomes

| Project | Outcomes |
|---|---|
| Levett-Jones | Identified *strengths and deficits and students'* learning and applicability to patient care and safety. *Students endorsed this approach over written assessments* in clinical reasoning, authenticity of tasks valued |
| Rogers | Claims this process had been effective in developing *'rich and nuanced' understanding* of interprofessional working, based on analyses of written assessment tasks and how key elements of the interprofessional working paradigm are addressed |
| Harrison | The process was engaging for students: both observational and reports from students. Students reported these *effective means for learning*, including comfort in reporting errors they had made in this environment and through these processes that they would not ordinarily do |
| Kirwan | This outcome indicates the intervention was successful in improving students' ability to demonstrate attributes of employability when writing a new graduate application |
| Sweet | Introduction of the *structured approach to generating critical analyses* through students' evaluation of practicum experiences. It is claimed students demonstrated greater depth of critical analysis of the kind required to be reflective practitioners |
| Grealish | Concept maps were useful *for understanding students' development* through the learning circles, which provided a vehicle for the students to share, compare and contrast experiences. The initial and post-experience student evaluations reinforced the importance of learning circles and concept maps, insofar as they allowed students *to articulate and share their experiences*. Clinical facilitators noted that the student-led discussions were important pedagogically and allowed them to assess student engagement and learning |
| Steketee | The majority of students found the clinical debriefs to be useful, based on the combination of the clinical event and the opportunity to discuss it with peers. These *discussions were seen as building a trustworthy, safe and supportive environment for students* to share and learn from each other. Overall, students claimed these as a valuable supplement to their clinical rotations, including a source of feedback informing their progress |
| Cardell | Students reported satisfaction with the *opportunity to engage in the workshop and focus on the three key topics and their interrelationships*. The process of sharing with their peers and then with the entire group indicates a level of satisfaction and confidence in the process. However, *less than half of the students expressed an interest in wanting to repeat the activity in the future*. |
| Williams | Facilitators reported positive outcomes in terms of *students' ability to share openly and engage with others in constructive appraisals of their experiences*, including commonalities and differences to be articulated, shared and appraised. Mixed views about whether facilitators (i.e. competent clinicians) should intervene or merely observe. *Students reported positive outcomes on a set of four measures designed to support their professional preparation* |
| Noble | Students reported high levels of satisfaction with the intervention process and outcomes. This included being more effectively engaged with feedback processes because of the approach adopted. Students reported *developing a more nuanced understanding of the quality of feedback they are receiving (i.e. its utility and focus) and developing criticality associated* with feedback. For the majority of students, this was the first time that the feedback process had been explicitly addressed in their education |

(continued)

**Table 15.5** (continued)

| Project | Outcomes |
|---|---|
| Clancy | The intervention was judged effective from the participants' perspectives as it provided them *with insights and the opportunity to consider post-graduation pathways*. Students particularly valued experiences that were relevant to themselves and their circumstances. For instance, only those students intending to have their own businesses rated content about business models as being relevant to their needs and pathways |
| Newton | Students' reported *developing nuanced understandings* about (i) the role and requirements of a community nurse, (ii) intersections between this kind of nursing work and acute care, (iii) enhanced understanding about care of old people, (iv) particularly those with chronic conditions and (v) how this experience shaped student nurses' practices in the future |

these activities was the use of concept maps that provided a vehicle for nursing students to articulate and share ideas and propositions about their recent practicum experiences (Grealish et al., 2018).

The structuring of experiences for students which included a space for their own engagement and discretion in the content and process was evident in a number of studies. For instance, in organising a workshop for speech therapy students that focused on three specific topics, this initial structured experience provided the platform for students to engage in processes of sharing with progressively larger numbers of peers (Cardell & Bialocerkowski, 2018). It was this aspect of the workshop about which students reported the most satisfaction. Similar process outcomes were reported in the workshops organised for student dieticians (Williams et al., 2018). As noted, a particular concern was for students who had engaged in practicums in fairly socially isolated circumstances to be able to engage, share and compare experiences. Also, the kind of processes used (i.e. small groups) permitted students to be open about their experiences and share difficulties, challenges and problems they had encountered. It would seem that providing structure, which includes organising the event, and having an activity that was more than student discussion lead to an engagement which then exercised and extended student-led discussion.

The issue of structure was also emphasised in the project that assisted students to understand and develop competence in feedback processes (Noble et al., 2018). That is, students were provided with online experiences to help them understand the purposes and processes of providing feedback and then engage in and develop the capacities to provide and respond to feedback. Pressing students into approaching critical appraisals of an area of nursing practice (i.e. community nursing) through a novel means (i.e. video clips) appeared to press the students into a fresh consideration of this nursing practice and, by the use of visual media, emphasised aspects that might be different than those privileged by assignments. That is, the particular approach with its emphasis away from written assignments and using visual imagery was seen to generate particular insights that may not have easily been developed through written form.

In these ways, it is possible to identify some key process outcomes that can inform the organisation and enactment of interventions to realise effective post-practicum experiences for higher education students.

### *15.5.2 Learning Outcomes*

The intended learning outcomes of many of these interventions were intentionally aligned with the development of the knowledge that students required to engage in their preferred occupation. Where appropriate and defensible, links are made to the formation of conceptual, procedural and dispositional knowledge, as outlined earlier and as presented in Tables 15.2 and 15.4. As a consequence, it is worthwhile considering the way that these particular interventions progress, and their prospects for developing these kinds of knowledge.

Assessment processes, such as those enacted by Levett-Jones et al. (2018), were able to identify what students know and deficits in their knowledge. Quite specifically, the development of understanding (i.e. conceptual knowledge) was identified as being the product of students engaging in written assignments. For instance, Rogers et al. (2018) identified written assignment tasks as being an effective way of allowing students to understand what constitutes interprofessional working, when these assignments were focused on events they had encountered in their clinical placements. In this instance, the students were pressed into identifying what was deemed to be effective and ineffective about these interprofessional working arrangements. In this way, grounded instances of practice observed by the students can be used to instantiate and also to justify decisions about whether these were positive or negative instances of this way of working. Of course, the concern is that students may simply rehearse what they have been advised in the classroom about what constitutes effective interprofessional working and examples from their practice experiences accordingly. This might be the case for a more open form of assessment that allow students to support, but also to contest, the orthodoxies of what might lead to effective interprofessional working and learning.

Procedural outcomes in terms of students being ready to engage in applying for employment and being interviewed were evident in the contributions of Clanchy et al. (2018) and Kirwan et al. (2018). In both of these instances, experiences were provided for students to engage in the processes through which they would apply and be selected for employment. Of course, there are conceptual outcomes as well in terms of understanding the processes and goals for engaging in the procedures leading to seeking and being employed in both of these projects. Both procedural and conceptual outcomes were reported from Sweet et al. (2018)'s use of reflective writing activities to develop critical capacities required for nursing practice. The procedures were those associated with considering, appraising and evaluating what has been observed, thereby seeking to develop the kinds of higher-order procedures required for engaging critically in clinical work. The conceptual development was associated with the concept and practices that needed to be appraised, compared and

linked and associated, through a consideration of the clinical cases. Moreover, dispositional development (e.g. interest, values, and beliefs) likely arose through critical appraisal of clinical cases.

Equally, concept maps were helpful for engaging students in considering and appraising concepts that were abstracted (Grealish et al., 2018). The use of concept maps is usually associated with conceptual development because it presses students into engaging with concepts but also identifying links and associations amongst them. In this way, this is an activity that can capture, utilise and develop higher forms of propositional knowledge required for activities such as clinical reasoning. In particular, Grealish et al. (2018) reported that engaging with concept maps presses students into articulating and sharing those constructions and associations, which is likely to further assist the development of their personal domain of knowledge.

Evident in the development of feedback literacy were all three forms of knowledge: conceptual (i.e. understandings and goals for feedback processes), procedural (i.e. ability to engage in and optimise these processes) and dispositional (i.e. how one's beliefs and values are enacted) (Noble et al., 2018). Moreover, as an indication of achieving a particular outcome from a specific pedagogic means, Newton & Butler (2018) were able to develop nuanced understanding about the work of community nurses through encouraging students to use their practicum experiences to produce a brief video clip about that kind of work. The use and selection of images required these students to make value judgements and reflect these in that process of selection.

In this way, it is possible to identify how specific educational interventions have come to secure particular kinds of learning outcomes for students. This analysis is particularly important because, as stated earlier, educational provisions are intended to achieve particular kinds of outcomes. Therefore, knowing which kinds of interventions are more likely to develop the intended kinds of knowledge permits greater efficacy in the design and enactment of interventions such as these.

However, despite the reports of successful outcomes, most of the contributions also suggested areas for further or future improvements to these interventions. As a consequence, the next section considers potential improvements suggested in these contributions.

## 15.6 Potential Improvements

A range of suggested improvements to post-practicum processes trialled within these various projects were advanced through critical appraisal of their enactment. These can be categorised in terms of (i) improvements to intervention processes and (ii) student engagement (see Table 15.6). These suggestions are now discussed in turn, drawing upon insights and contributions from earlier sections of this chapter.

**Table 15.6** Potential improvements

| Project | Improvements |
|---|---|
| Levett-Jones | Student readiness (ill prepared) and need for more adequate preparation. Assessment instrument refined through the process. Offer students more of these kinds of experiences to develop that clinical reasoning capacity |
| Rogers | Need to be more widely applied |
| Harrison | Broader engagement by larger number of students, enhancing environments for students to report their learning and work through errors in a supportive and non-judgemental environment |
| Sweet | If students are provided with a more structured experience based around this particular model and then their efforts are assessed on the elements of that model, then there are likely to be stronger outcomes |
| Grealish | Issues faced in this study were associated with finding rooms or spaces to undertake learning circles in busy hospitals, and the time for them to occur. Clinical facilitators reinforced the importance of them shifting from initiating these interactions to being able to observe, and coaching and guiding the conversations within them. Overall, feasibility seems strong. Students reported specific outcomes from these learning processes, including deepening their understanding, having opportunities to articulate and understand concepts and the usefulness of concept maps as a mechanism for realising these outcomes |
| Steketee | Whilst students reported that the interventions were effective opportunities for rich learning, it was not always evident that transformative learning had occurred. It was unclear whether the survey device was sufficiently sensitive to pick up these kinds of outcomes. However, other outcomes indicated that students' personal knowledge had been transformed through these experiences |
| Cardell | These interventions are an initial attempt to promote professional identity, self-efficacy and resilience, and much was learnt about structured approaches to achieving these outcomes. Essential here is that students would have had practicum experiences to achieve the intended outcomes. Yet the prospects for ongoing participation and further engagement in these activities will be constrained without students more fully appreciating the worth of these experiences. This stands as a challenge for their teachers |
| Williams | Key lessons included (i) even relatively short interventions to gather evidence-based approaches requires considerable resources, (ii) care about the overlap between assessment and these kinds of interventions, (iii) the importance of gathering both quantitative and qualitative data and (iv) the importance of having skilled facilitators to maximise these processes. However, issues still exist associated with the degree of intervention by facilitators, particularly when occupationally competent |
| Noble | Some students reported difficulty in accessing and engaging with the electronic resources prior to the workshops. Also, students suggested feedback should be integrated within their university studies, not offered as a one-off intervention. Students also commented that their supervisors might benefit from similar training |
| Clancy | The evaluation suggested the need for activities that increase participants' industry knowledge: i.e. work opportunities and potential pathways. Enhancing the relevance to their sector and needs was a key basis for promoting engagement by students |
| Newton | Four themes emerged that shape future consideration of this kind of initiative: (i) reasons for participation, (ii) barriers encountered, (iii) pressing the student into thinking and (iv) potential use of this strategy. The need to prepare students – to make them ready – to engage in these kinds of activities – designing the activity so it encourages descriptive and reflective activities, as well as dialogue and critical engagement |

### *15.6.1 Improvements to Intervention Processes*

Ensuring that there is an adequate and appropriate level of structure in the experiences, including the sequencing of activities and the management of student progress (Cardell & Bialocerkowski, 2018), is likely to be an important basis for improving these processes. Part of that structuring can be to include more of the kinds of experiences that comprise an overall structure with a compulsory focused activity, and then one that provides opportunities for students to discuss issues of immediate interest. Even within these processes, there is concern to provide a structure that permits students to engage in their interactions in measured ways. For instance, in the speech therapy project, the intention was for students to work through a process in which they initially discuss issues in pairs, then in groups and then with an entire cohort. However, it was found that whilst it was important to allow these processes to be student led, it was helpful to guide the pace and means of their progression. One concern is that students may be rushing through these phases, rather than relishing and optimising the experience at each stage. Also, there was concern that the process was designed to permit students to manage what is shared with others, and if the process progresses too quickly, students may lose the ability to manage the nature and content of what is discussed with ever larger groups. So, there is a balance to be achieved between initiating and encouraging student engagement, including granting them discretion to progress with a process, and then to manage the process in a way that is aligned with achieving the desired outcomes. A similar concern was articulated by clinical facilitators who were concerned that the process of engaging students and guiding them in their conversations needed to be incremental and managed to achieve the best learning outcomes (Grealish et al., 2018). So, from these we learn that the process of student-initiated and student-led processes may need to be managed, particularly in the first instances.

Part of the structuring of the experiences should be, if it is required, to develop the students' capacities to engage effectively in these activities. For instance, Levett-Jones et al. (2018) note that if students were to engage more in oral assessments, they may well develop further their clinical reasoning skills, but this needs to be premised upon practice in considering and articulating their ideas orally. Hence, the importance of practice and frequency of experiences that support the development of these capacities that, in turn, will be used to develop clinical competence. Of course, when there is alignment between the kind of activities being used and those that will be required in practice, the justification for rehearsing such activities becomes stronger, as is the case here. As noted below, there is a range of activities that students were not necessarily ready to engage in. Much of this readiness was associated with the kind of capacities required to participate effectively and constructively in these interventions. Part of that is to understand the process and outcomes of such activities, so that they can be seen as being worthwhile educational experiences. If students do not view the didactic presentation of information as being a legitimate and worthwhile educational experience, then how they come to engage with such activities is likely to be limited. So it might be necessary to

emphasise the process aspects of such educational interventions to promote student engagement. Issues associated with the location of these activities (Grealish et al., 2018) and their duration (e.g. short and intense or longer term and accumulative) (Williams et al., 2018) were also raised in these discussions.

A concern often raised about student-led processes is that they may be informed and progress in erroneous ways. This issue was raised by the clinical facilitators in the learning circle project (Grealish et al., 2018) and also in the discussions by medical students (Steketee et al., 2018). Whilst there is genuine reason to be concerned about such processes and outcomes, there is also a view by some educators that an educational experience not mediated by teachers is inherently a weaker proposition than one in which they are involved. Yet, perhaps the majority of student interactions occur outside of directly taught or facilitated processes. Of course, such processes should leave open the options for teachers to facilitate and to encourage areas of uncertainty or lack of clarity, in order that they be raised and discussed. Certainly, such processes need to be followed at some point by assessments, to ensure that what is learned through these experiences is appropriate and in accordance with the domain of learning. What is clear, however, is that processes of knowledge construction are at the core of individuals' learning and these arise through their activities and interactions, rather than being passive recipients of knowledge.

So, there are a range of issues associated with the focus for these activities, how they are managed and the circumstances in which they are enacted. All of which suggests that there is a role for the educator in organising, establishing and managing these experiences which goes beyond being the communicator of information. That is, there are process considerations that become an important component of teachers' work.

### *15.6.2 Issues of Student Engagement*

Evident in a number of studies was that the preparedness and readiness of students to engage effectively in these activities was a key issue and a focus for improvement. This preparedness included the ability to participate in oral assessments (Levett-Jones et al., 2018), familiarity with processes of written critical reflections (Sweet et al., 2018), familiarity with accessing and engaging with online learning support (Noble et al., 2018) and ability to produce video clips (Newton & Butler, 2018). So, where there is a particular capacity or set of capacities required to engage in these interventions, it may be necessary to prepare students or ensure that they possess the capacities to be able to effectively engage in those activities. Clearly, if students are being expected to do something for which they are not ready or adequately prepared to productively engage, the learning outcomes are likely to be inferior or even potentially negative.

The other key issue with students' engagement is their willingness to participate. The evidence from across nearly all projects was of difficulty with engaging students in activities not perceived to be an inherent element of their existing program.

If students elect not to participate or participate in ways which are grudging, it is unlikely that productive learning outcomes will be achieved. For instance, at least one group of students indicated reluctance to participate in particular kinds of activities (i.e. learning circles and critical reflections) (Harrison et al., 2018) because of their overuse. Hence, a different term had to be used, but also perhaps a slightly different focus was adopted. The consideration here is that learner engagement is essential, and the quality of that engagement is likely to be aligned with the effort they will expend in these interventions and, therefore, the kind and extent of learning likely to arise from them.

Whilst a number of interventions were part of compulsory student activities, it is not possible to know how students elected to engage in these kinds of activities. In particular, the concern is that students merely respond to the assessment criteria in a superficial and intentional way, rather than engage in ways that lead them to learn what is intended. Throughout, it was reported that wherever the content and activities were pertinent to student needs and interests, then their engagement was far stronger. So, for instance, in the group work organised by Steketee et al. (2018) and Harrison et al. (2018), there was evidence of rich interaction and effortful engagement by students because the topics and the conversations were relevant to their interests and studies. However, even then the participation was not universal or universally valued. Nevertheless, this suggests that relevance of activities, pertinence to student needs and alignment with what they are engaging with currently are likely to be what attracts their interest.

## 15.7 Some Considerations for Curriculum and Pedagogy

Having reviewed the purposes, strategies, implementation issues, outcomes and suggestions for improvement, it is possible to identify some key considerations for curriculum and pedagogy. It is these that conclude this chapter.

### *15.7.1 Relationship Between Assessment and Interventions*

One strategy for encouraging students' engagement and participation in post-practicum interventions is to make it part of the assessment of the course in which they are enrolled. This has a number of advantages. These include the likelihood that all students will participate in the activity and also engage with the assigned task with a high degree of interest. Moreover, such an approach allows the intervention to be directly related to the intended outcomes of the course or unit. However, there are also some disadvantages when post-practicum interventions are intermingled with assessment of students' performance. This includes students' responses being constrained to the specific focus or topics of the intervention, and this may ignore important learning outcomes that sit outside of those specific intentions.

There is a danger that students' participation and responses to these activities will be mediated by their concerns about grades and by providing the kind of responses which they conclude their teachers or clinical supervisors want. In addition, such processes inhibit students' sharing with others openly and honestly, because their responses might be constrained by concerns associated with disadvantaging themselves and advanced in others in an assessment process were they will be rated and ranked. The limitations here are particularly important when there is an intention to have an open discussion amongst students and for the students to feel free to share their experiences, compare and contrast them with others, and also within the safety of a non-judgemental process.

### *15.7.2 Structuring of Interventions*

Staged processes that permit students to discuss, share, compare and contrast seem to render the most significant outcomes. Various patterns of sequencing of structured experiences are evident in the studies reported here, and there is no set of pattern that offers an unequivocal way forward. In some instances, a case is presented and discussed, and then from that, students discuss the case and share experiences. In other circumstances, the students commence by having discussions with peers and then engage in a more structured activity. The structuring of engagement, however, appear to have a more common focus, that is, starting from smaller group engagement, including working in pairs, then moving through to larger group engagement and then engagement involving an entire cohort.

Yet, one particular pattern of the structuring of successful interventions was reported across a number of studies. That is, having a structured experience in which students collectively focus on a specific activity (e.g. presentation, case study, clinical case), which is then followed by a student-led discussion, seemed to be effective in initiating and engaging students in critical discussions. The majority of these were student led, and students have the discretion in terms of the content and process adopted. One of the qualities of this approach is that it provides a safe environment for students to discuss any mistakes they may have made, problems they may have encountered and matters associated with their preparation that sat outside of the control and engagement by teachers.

### *15.7.3 Student-Led or Student-Facilitated Processes*

The issue of whether these processes should be entirely student-led and student-managed, facilitated by a teacher or facilitated in a way that permits interventions on the part of the teacher or clinical supervisor, is discussed in a number of the contributions here. In some processes, students are allowed to lead, manage and shape the experiences for themselves and their peers. This approach, when the

students elect to engage in it, seems to be the one that elicits some of the highest outcomes. However, there are concerns that such processes can lead to the pooling of ignorance and misery. That is, students become distracted by negative experiences and may arrive at incorrect judgements and erroneous outcomes as a result of not being guided by a more experienced interlocutor (i.e. teacher, clinical supervisor). So there are concerns about facilitation being directed towards the process of student participation (i.e. directing towards intended outcomes) and also the risk of inappropriate or perilous learning outcomes arising because of limits in students' knowledge and competence. These are perennial issues. However, one way of advancing them is to be clear about the purposes of the interventions and what they seek to achieve and then act accordingly.

## References

Anderson, J. R. (1982). Acquisition of cognitive skill. *Psychological Review, 89*(4), 369–406.

Anderson, J. R. (1993). Problem solving and learning. *American Psychologist, 48*(1), 35–44.

Billett, S. (2003). Sociogeneses, activity and ontogeny. *Culture and Psychology, 9*(2), 133–169.

Billett, S. (2011). *Curriculum and pedagogic bases for effectively integrating practice-based experiences*. Retrieved from Sydney: www.olt.gov.au/resource-integrating-practice-based-experiences-griffith-2011

Billett, S. (2015a). *Integrating practice-based experiences into higher education*. Dordrecht, The Netherlands: Springer.

Billett, S. (2015b). Readiness and learning in healthcare education. *Clinical Teacher, 12*, 1–6.

Billett, S. (2018). Augmenting post-practicum experiences: Purposes and practices. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences*. Dordrecht, The Netherlands: Springer.

Billett, S., Cain, M., & Le, A. (2017). Augmenting higher education students' work experiences: Preferred purposes and processes. *Studies in Higher Education*. https://doi.org/10.1080/03075079.2016.1250073

Billett, S., Harteis, C., & Gruber, H. (2018). Developing occupational expertise through everyday work activities and interaction. In K. A. Ericsson, R. R. Hoffman, & A. Kozbelt (Eds.), *Cambridge handbook of expertise and expert performance* (2nd ed., pp. 105–126). New York: Cambridge University Press.

Cain, M., Le, A., & Billett, S. (2018). Student preferences for purposes and processes of post practicum interventions. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Cardell, E., & Bialocerkowski, A. (2018). Bouncing forward: A post-practicum workshop to promote professional identity, self-efficacy, and resilience in Master of Speech Pathology students. In S. Billett, J. M. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Clanchy, K., Sabapathy, S., Reddan, G., Reeves, N., & Bialocerkowski, A. (2018). Integrating a career development learning framework into work-integrated learning practicum debrief sessions. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Cleland, J., Leaman, J., & Billett, S. (2014). Developing medical capacities and dispositions through practice-based experiences. In C. Harteis, A. Rausch, & J. Seifried (Eds.), *Discourses*

*on professional learning: On the boundary between learning and working*. Dordrecht, The Netherlands: Springer.

Cole, M. (1985). The zone of proximal development where culture and cognition create each other. In J. V. Wertsch (Ed.), *Culture, communication and cognition: Vygotskian perspectives* (pp. 146–161). Cambridge, UK: Cambridge University Press.

Donald, M. (1991). *Origins of the modern mind: Three stages in the evolution of culture and cognition*. Cambridge, MA: Harvard University Press.

Glaser, R. (1989). Expertise and learning: How do we think about instructional processes now that we have discovered knowledge structures? In D. Klahr & K. Kotovsky (Eds.), *Complex information processing: The impact of Herbert A. Simon* (pp. 289–317). Hillsdale, NJ: Erlbaum & Associates.

Grealish, L., Mitchell, M., Armit, L., van de Mortel, T., Shaw, J., Mitchell, C., et al. (2018). Using learning circles to develop intersubjectivity. In S. Billett, J. Newton, G. D. Rogers, & W. Nijhof (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Greeno, J. G., & Simon, H. A. (1988). Problem solving and reasoning. In R. C. Aitkinson, R. J. Hormiston, G. Findeyez, & R. D. Yulle (Eds.), *Steven's handbook of experimental psychology and education* (Vol. 2, pp. 589–672). New York: Wiley.

Groen, G. J., & Patel, P. (1988). The relationship between comprehension and reasoning in medical expertise. In M. T. H. Chi, R. Glaser, & R. Farr (Eds.), *The nature of expertise* (pp. 287–310). New York: Erlbaum.

Harrison, J., Molloy, E., Bearman, M., Ting, C. Y., & Leech, M. (2018). Clinician Peer Exchange Groups (C-PEGs): Augmenting medical students' learning on clinical placement. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Kirschner, P. A. (2002). Cognitive load theory: Implications of cognitive load theory on the design of learning. *Learning and Instruction, 12*, 1–10.

Kirwan, G., Tuttle, N., Weeks, B., & Laakso, L. (2018). Post-practicum strategies to translate clinical experience to attributes of employability: Responding to graduate selection criteria. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordreccht, The Netherlands: Springer.

Levett-Jones, T., Courtney-Pratt, H., & Govind, N. (2018). Implementation and evaluation of the post-practicum clinical reasoning exam. In S. Billett, J. M. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Mezirow, J. (1981). A critical theory of adult learning and education. *Adult Education, 32*(1), 3–24.

Newton, J. M., & Butler, A. E. (2018). Facilitating students' reflections on community practice: a new approach. In S. Billett, J. M. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Noble, C., Armit, L., Collier, L., Sly, C., Hilder, J., & Molloy, E. (2018). Enhancing feedback literacy in the workplace: A learner-centred approach. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Pea, R. D. (1993). Learning scientific concepts through material and social activities: Conversational analysis meets conceptual change. *Educational Psychologist, 28*(3), 265–277.

Perkins, D., Jay, E., & Tishman, S. (1993). Beyond abilities: A dispositional theory of thinking. *Merrill-Palmer Quarterly, 39*(1), 1–21.

Prawat, R. S. (1989). Promoting access to knowledge, strategy, and dispositions in students: A research synthesis. *Review of Educational Research, 59*(1), 1–41.

Rogers, G. D., Parker-Tomlin, M., Clanchy, K., & Townshend, J. (2018). Utilising a post-placement critical assessment task to consolidate interprofessional learning. In S. Billett, J. Newton, G. D.

Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Ryle, G. (1949). *The concept of mind*. London: Hutchinson University Library.

Steketee, C., Keane, N., & Gardiner, K. (2018). Consolidating clinical learning through post-rotation small group activities. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Stevenson, J. (2001). Vocational knowledge and its specification. *Journal of Vocational Education and Training, 53*(4), 647–662.

Sun, R., Merrill, E., & Peterson, T. (2001). From implicit skills to explicit knowledge: A bottom-up model of skill development. *Cognitive Science, 25*, 203–244.

Sweet, L., & Glover, P. (2011). Optimising the follow through for midwifery learning. In S. Billett & A. Henderson (Eds.), *Developing learning professionals: Integrating expereinces in university and practice settings* (pp. 83–100). Dordrecht, The Netherlands: Springer.

Sweet, L., Graham, K., & Bass, J. (2018). The continuity of care experience and reflective writing: enhancing post practicum learning for midwifery students. In S. Billett, J. M. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Williams, L., Ross, L., Mitchell, L., & Markwell, K. (2018). Using students' placement experiences to enrich understandings of distinct kinds of nutrition and dietetics practice. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

# Chapter 16
# The Challenges of Implementing Post-practicum Initiatives


**Janice Orrell**

## 16.1 Introduction

Practica, the placement of students into health-care workplaces during the course of their studies, have long been a common feature of pre-service health-care education curricula. Workplace placements are used as a primary mechanism for developing graduates' capacity to practise and for inducting the next generation of practitioners into the values and culture of their chosen professions. Educational developers within these professions-based programmes of study have paid significant attention to research and curriculum development to ensure students are well equipped prior to entering practice settings. These efforts are grounded in a shared understanding that students need to be adequately prepared to confront the learning challenges in workplaces and to contribute to, rather than disrupt, their host organisations.

The focus of this chapter is on the individual post-practicum initiatives undertaken by health-care education programmes reported in the early chapters of this volume. The intention is to identify the challenges confronted by the individuals who attempt to develop and introduce post-practicum initiatives in their programmes. All of the initiatives aim to develop and evaluate the efficacy of educational strategies to augment post-practicum clinical learning for health sciences students. These initiatives have occurred within a contemporary higher education context that has an overriding interest in practicum as a contributing factor for graduate employability. While understanding the ubiquitous concern for higher education graduates to learn to work and gain employment, this chapter is primarily concerned with the challenges confronted by the project leaders and managers of these initiatives. Also of interest is the efficacy of the strategies embedded in the larger project design, which have been introduced to anticipate and ameliorate the

J. Orrell (✉)
Flinders University, Adelaide, Australia
e-mail: janice.orrell@flinders.edu.au



S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8_16

challenges that project participants might face, and in an effort to reduce or avoid possible threats these challenges may pose to successful project outcomes. The matter of project implementation strategies is of critical importance in the current environment, which tends to count quality in terms of efficiency and outputs. In contrast, quality in this initiative has remained process- and learning-focused, which is in itself a challenge in an environment increasingly driven by an overriding contemporary interest in graduate employability and employment.

## 16.2 Background Context

### *16.2.1 WIL as a University Enterprise*

Over the last 20 years, universities have incrementally adopted work integrated learning (WIL) as a key enterprise conceived largely as the provision of learning opportunities in workplaces that will assist students to be well prepared for the transition from university to employment. Previously in Australian universities, placements in which students were expected to apply their theoretical learning in work environments within a programme of study were limited largely to professions-based programmes driven by a requirement for registration or eligibility to enter a particular type of employment or profession. As such, practica were limited mainly to medical and health-care-related professions, engineering, and teacher education. Early institutional research and development interests in WIL were focused on auditing practica in and across university programmes, because it was largely invisible in curriculum design and education policy. As such, little was known about how those programmes were enacted or the extent of student, staff, and industry engagement. WIL and its scholarship largely constituted invisible work in universities.

WIL has become a robust field of scholarship and field of practice, both within and across university institutions. Considerable resources from government-funded institutes for learning and teaching in higher education have been expended on projects to develop curricula and the pedagogical resources that will prepare and support students for learning in workplaces (Orrell, 2011; Sachs, Rowe, & Wilson, 2016). Despite the sophisticated curriculum models for WIL that have emerged and the extent of robust scholarship that has occurred, there still exists a conception of students entering work placements as constituting the full extent of a WIL experience. Audits of WIL curricula across universities and a review of funded WIL innovations have identified that robust attention has been paid to students' preparation for WIL. It has also been noted that there is a singular absence of post-practicum education in WIL curricula (Orrell, 2011). This absence constitutes a significant gap in the focus of funded WIL projects, WIL research, and pedagogical models for WIL.

It is evident that while there are calls for greater participation in WIL from industries and professions, the precise nature of the role of university programmes in

relation to WIL is still not clearly articulated. More pragmatically, how universities may best leverage and enhance students' learning in work placements once they return to university classes has largely remained unexamined.

### *16.2.2 Post-practicum Research and Development*

Billett has long argued (Billett, 2006, 2015) that there is a critical role for university education within the WIL sphere, post-practicum. A significant but overlooked role exists for universities to provide curriculum space, as well as pedagogical designs and practices which will assist students in converting their practice experience into practice knowledge. It is notable that, in research and educational development, little deliberate attention has been directed towards developing post-practicum learning pedagogy that will assist students in transforming their practicum experiences into explicit, elaborated practice knowledge, knowledge that can be transferred to diverse practice settings.

This lack of attention to research and curriculum development is the basis of a significant omission in education for practice. The current project, led by Billett (in this volume), has systematically addressed this gap. The project's focus was to explore the range of possibilities in designing post-practicum programmes to augment and enhance the learning that has already occurred in workplace settings and which will assist students in making the transition from university to employment (Perrone & Vickers, 2003).

Learning in practicum settings is notably variable, experiential, transient, largely ad hoc, and always unpredictable and difficult to capture. The philosopher Heraclitus' claim that "man (sic) can never step twice into the same river" is never truer than in learning in workplace settings. This is not a challenge to the validity, utility, or quality of learning that occurs within a practice setting. It is merely to argue that students' practice-based experiences are highly variable because they are impacted by quite diverse and unpredictable influences. As a result, it is important that the learning itself should be contextualised, critically scrutinised, and deconstructed, so that the experiences can be transformed into practice knowledge using the theoretical constructs learned in formal studies.

Such transformative learning opportunities enable practice knowledge to be organised and robust, as well as being transferable and translatable to novel settings. In contrast, there is a common assumption that students will naturally apply their theoretical knowledge to practice in a workplace setting. While this may be true in part, we have also learned that most students go into practice settings with an expectation that they are there to learn from, and model their practice on, expert practitioners and in the process often discount their theoretical learning. Whether this actually occurs is rarely clear. What is clear is that the experience of practice – and the learning derived from it – is more resilient if there have been opportunities to debrief and deconstruct the experience with the guidance of an expert outside of the

setting itself, someone to scrutinise it and evaluate its salience and long-term applicability (Murphy, Halton, & Dempsey, 2008).

Enabling the augmenting of post-practicum learning is a legitimate and critical role of universities that Billett has long advocated (Billett, 2006, 2018). He has now enabled and supported the development and implementation of projects described in the preceding chapters in this volume. This underscores in no small way the valuable contribution of the potential impact of this project for curriculum design and the enduring importance of universities' contribution to practice-based education.

### *16.2.3 Conditions for Successful Implementation of Educational Innovations*

The introduction of innovations into existing programmes of study in higher education inevitably requires changes to be made to established practices; and change, regardless of its apparent value, needs careful management because it upsets the accepted order. This is not a negative aspect of change, but, as claimed by Fullen and Miles (1992, p. 749), "Change is learning, loaded with uncertainty". Managing uncertainty within the process of introducing innovation is critical. Lane (2007), examining the challenges and resistance to the introduction of change in health-care professions, noted several factors that contribute to uncertainty and the resulting resistance. These factors include the presence of strong traditions, failure to perceive the need for the change, disciplinary protection of curriculum time, and lack of time to study or implement change (Lane, 2007, p. 87). Amongst an extensive list of suggestions for managing resistance and uncertainty, Lane suggests that it is important to manage the change process by maintaining knowledgeable, consistent leadership, providing sufficient evidence for the change, using demonstrations and pilot studies, implementing frequent communication, and encouraging wide participation inclusive of students and external stakeholders.

A number of studies have been conducted over the last decade to identify the conditions necessary for managing the successful development and introduction of educational development projects (see, e.g. Southwell, Gannaway, Orrell, Chalmers, & Abraham, 2010; McKenzie, Alexander, Harper, & Anderson, 2005). Common recommendations have been identified in these studies that are relevant to this study. They include effective leadership, a climate of readiness for change, supportive peer networks, and availability of resources and funding.

In examining successful educational innovation projects in higher education, these studies concluded that a particular style of leadership is needed to enhance the chance of successful implementation. Such leadership is sustained and consistent at each level of the project, focuses on the development of a shared vision early on, and sets clear goals; there is a high level of commitment to the success of the project by leaders across the board and a high level of promotion of capacity building. There is also a need for a clear understanding regarding what constitutes the roles

and responsibilities of both leadership and management (Marshall, Orrell, Cameron, Bosanquet, & Thomas, 2011). Under such leadership, it is possible for a fertile environment that is ready for change to flourish. A climate of readiness includes shared recognition of the need for change, tolerance and support for risk taking, sound scholarship of teaching and learning, and a capacity for reflective critique. These conditions constitute a conceptual background to understanding the ways in which the design of Billett's 2016–2017 "Augmenting Post-practicum Learning" project was able to anticipate some of the challenges of the subprojects and minimise uncertainty and resistance.

## 16.3 The Project

The design of this post-practicum learning augmentation project was based on a proven model developed by Billett in previous WIL projects. Billett has developed a unique approach to executing educational development grants. He selects a particular issue that has emerged in his research as an aspect of WIL practice that is in need of examination or change (see, e.g. Billett, 2011). In each case, the focus is on a challenging aspect of the integration of education and learning to practice in the workplace. In this case, he focused on post-practicum augmentation of learning with a view to enhancing graduate employability. In executing these projects, Billet recruits participants engaged in WIL from universities across Australia, largely from the health-care education sector, who become partners in the project. Once the participants are identified, Billet then establishes a community of practice with these partners who will have access to his expert support in designing, developing, executing, and evaluating pilot projects that will best suit their own particular discipline and workplace context. The goal is to explore the impact and efficacy of new strategies that address the specific WIL practice under examination.

In this post-practicum project, 14 project leaders or leadership teams were recruited and inducted in regard to the challenge. Following this, they were supported in developing their own projects. A year later, each of these project leaders reported their learning and project outcomes to a further 18 recruited WIL practitioner teams. In this second stage, the partners were not necessarily involved in health-care education but were able to use their project experiences as a basis for developing a second generation of post-practicum learning designs.

### *16.3.1 Project Participants*

A number of roles were established in the project design, as follows:

*Project leader*: The role of project leader, held by Stephen Billett, the grant recipient, was a critical factor in the design. As noted already, Billett is a national and

international leader in this field of workplace learning and employment. This was an important factor in generating trust and confidence in regard to the importance of what the project set out to achieve. His primary role in this project was to provide vision, intellectual leadership, guidance, and support to the subproject participants.

*Project manager*: A project manager role was also established and carried out by Melissa Cain, who possesses significant expertise in WIL and higher education scholarship. Her role was to manage the processes of each phase and triage challenges so that they could be addressed appropriately in a timely manner. Billett and the project manager were the initial team, together conducting an initial environmental scan to produce an information base to inform the design and development of the individual projects and to extend the subproject leaders' knowledge and awareness of the potential value of, and possible models and strategies for, post-practicum education.

*Subproject leaders*: Leaders for the subproject participants in the first stage (Class of 2016, n = 14 projects) were health-care practitioners or educators or in fact people who held both roles in health-care-related professions. Leaders for the non-health-care disciplines in the second round (Class of 2017, n = 18 projects) were largely academics from practice disciplines, some still health-care-related, for example, Dental Technology, Pharmacy, Occupational Therapy, Speech Pathology, Public and Environmental Health, and Midwifery, while others were from disciplines such as Education, Design, Science, Media and Communication, Business, and Exercise Science.

*External evaluator*: A final participant was an external evaluator, myself, Janice Orrell, the author of this chapter. This role was enacted formatively as participant observer at project events and in constructing, administering, and analysing surveys of subproject leaders regarding their progress and the challenges they were confronting.

### *16.3.2 Project Processes*

The project design included quite diverse processes that recognised the need for:

- *Shared learning* to establish a common understanding of the need for, and efficacy of, the introduction of the post-practicum innovation and the evaluation of its impact
- *Social interaction* via communication and formation of cooperative networks
- *Clear goals* against which there would be regular and timely reporting
- *Ongoing supportive tools* to assist in developing and communicating individual projects and in reporting progress

**The Learning Phase** Information used to initiate the project's participants was derived from two sources, both of which sought to identify and appraise the effectiveness of the newly introduced post-practicum interventions in promoting

outcomes associated with students' employability, including readiness to practice. This phase included:

- A critique of theoretical, research, and educational development literature pertaining to post-practicum pedagogies for supporting students' transition from their studies to employment in the health-care workforce.
- A survey of students' perceptions of what will best assist them to improve and enhance their employability post-practicum. The students were recruited from multiple institutions and from diverse health professions' programmes of study.

The outcomes of these two measures were published in a project handbook, which formed the basis for elaborated and critical discussion with the leaders and participants of the first 14 projects on day 1 of the *Dialogue Forum*. The in-depth discussions regarding the theory and the students' perceptions at the two-day *Dialogue Forum* formed the basis for the projects' identification and design. The tentative subproject designs were subject to constructive peer review.

**Social Interaction** The participants came together in the project design for two major project events. The first was a *Dialogue Forum* (February 2016) for the first round of projects, and the second was a *Development Conference* (February 2017) for the next round of projects 1 year later. The purpose of the 2017 conference was for the first round project leaders to report back publicly to enable the second group, which constituted 17 project leaders and teams, to draw from, and build on, the work of the first round of projects. Apart from information sharing and conceptual development, the forum and the conference made a significant contribution towards building strategic peer networks and a nationwide, interdisciplinary community of WIL practice.

**Project Reporting** Templates were provided to assist subproject leaders to prepare for on-line meetings and for the reporting of their findings 1 year later at the *Development Conference*. Specific dates were set for either on-line or face-to-face interim review meetings to discuss progress and problems.

**Formative Evaluation** My own scholarship with regard to WIL in Australian universities has been an asset in carrying out the role of evaluator. I enacted a role as an observer to correspondence from the project leaders of the subprojects and as a participant observer at the *Dialogue Forum* and *Development Conference*. In addition, I consulted with the project leader, Stephen Billett, in the development of a survey to be completed by the leaders of the Stage 1 and Stage 2 projects. This was done to help him ascertain the challenges and needs of subproject leaders as they developed their projects and the nature of their expectations, as well as identifying what further support they may need. He was then able to anticipate the project leaders' needs prior to their follow-up meetings. The following list is a synthesis of the questions posed in the survey:

1. What was it that had first attracted them to participate in this project, and were their expectations being fulfilled?
2. How might they rate and explain the ways the *Dialogue Forum* helped them to understand their role and contributions to the overall program; advance their own project with competence; form networks with others who are engaged in similar or related activities; and prepare them for the task of leading a project?
3. How had the leader, Stephen Billett, assisted them with their roles and work within the overall teaching grant and in developing their project, and did they have further needs or suggestions for Stephen to consider in supporting the next group of projects?
4. What key factors had assisted and what factors had inhibited their enactment of their project?
5. What advice would they give to the projects commencing in 2017?

## 16.4 Evaluation Outcomes

The outcomes of the overall evaluation process have provided the basis for the identification of the challenges experienced by the subprojects and the features of the project design that helped mitigate them. The survey outcomes are not reported in full; however a synthesis of what was learned regarding the challenges and the mitigating factors is outlined.

### *16.4.1 Challenges Faced by the Subprojects*

The key challenges experienced by the subproject leaders were identified in the follow-up surveys of both Stage 1 and Stage 2 projects and in the reporting of the Stage 1 projects. The key challenges reported by the project leaders are as follows.

**Time** Having sufficient time for the project was one of the most troublesome issues raised. There were a number of different ways that time was construed as problematic. Firstly, engaging with the project competed with project leaders' and their teams' primary work responsibilities. While this challenge applied to both health-care practitioners employed in service delivery and academic staff from the universities, the health-care practitioners felt it especially keenly. It was less of a problem for academic participants in some cases, especially when there was endorsement for, or in some cases delegation of the project by a head of school and the pressure of time was reduced.

Secondly, participants reported that there was a relatively short time frame for them to conceptualise the educational problem and then design and enact the project. A number of these participants, while having a commitment to contributing to effective education of their next generation of practitioners, did not have a primary

role in education and had not previously engaged in educational development and project design. While considerable support was available in project management and design, their awareness of what they did not know in terms of educational design and evaluation contributed to their sense of time pressure.

**Managing and Overseeing Projects** Leaders especially noted the challenge of recruiting and building a project team and managing the input of busy team members who had varying levels of engagement with the project. Clearly this was felt more strongly by some who had experienced problems due to recruiting team members who had reneged on their agreed commitments, which had created setbacks to timely progression of their projects. Advice proffered by these leaders to the next generation of projects included being highly circumspect in the recruitment of their team and ensuring that all potential team members were clear as to what was required of them.

**Managing an Educational Project in Isolation** The leaders reported that despite all the support and preparation they received from the project's initial *Forum* and *Conference*, they felt particularly anxious once they returned to their worksite and had to commence conducting the project in isolation from the networks they had established at these events. They looked for, and in some cases engaged in, ongoing contact with other project leaders, especially where they felt there was some synergy between their project designs and strategies.

**Gaining Ethics Approval** The necessity for gaining ethics approval to conduct the projects and publish the outcomes was a significant challenge for the project leaders. Developing the kind of ethical imagination needed to provide a cogent defence to an ethics committee can challenge the most experienced researcher. In this case, some project leaders were novices to this task, and some had the additional challenge of having to manage the requirements of two jurisdictions, namely, that of a health-care service organisation and that of a university. It is difficult to imagine how this challenge could be constrained in the project design because each innovation has its own unique ethical considerations. Furthermore, ethics committees have their own unique assumptions and interpretations of what matters most in considering what the ethical threats may be and how they should be mitigated.

**Recruiting Student Participation** The project leaders, both in the survey and in the reporting of their projects at the *Development Conference*, reflected on the complexities of recruiting students and conducting the intervention in the clinical environment (see Grealish et al., 2018). Following on from the previously mentioned challenge of gaining ethics approval, there was much to be mindful of, particularly if the project was a pilot that was not yet a required element within the curriculum.

**Locating Appropriate Space for Meeting** Many programmes were held in hospitals and health-related facilities, where it was often difficult to find the kind of

spaces that were appropriate for meetings with groups of students and with enough space for "breakout" for small group interactions (Grealish et al., 2018).

**Leaders Learning New Pedagogical Knowledge and Skills** Participants in the projects also referred to the challenge of having to learn new pedagogies in which they shifted from leader (teacher) to observer and coach in order to encourage students to interact and communicate with each other in learning circles (see Grealish et al., 2018; Rogers, Parker-Tomlin, Clanchy, & Townshend, 2018).

**No Constraints or Challenges** It must be noted that a couple of the project leaders reported experiencing no constraints. In reflecting on this, it must also be noted that these were, in all probability, seasoned academics who may well have worked on similar projects in the past.

### *16.4.2 Participant Evaluation of Supports for Successful Project Outcomes*

As a counterbalance to the aforementioned challenges, the subproject leaders identified, both in the surveys and in the reporting of their projects, factors that helped achieve their projects' outcomes. The following is a summary of their formal and informal evaluations and explanations of what contributed to the success of their projects.

**Ongoing Leadership Support** The project leaders were consistent in their appraisal that it was invaluable to have a project leader (Billett) who had an established reputation in the scholarship of workplace learning, as well as a sound track record in leading similar practice-based projects that had multiple subprojects. The project leaders reported that they experienced ongoing support from Billett in developing their project from the outset, which provided opportunities to discuss the overall project with him. In his leadership role, he met with them or provided email guidance on what they might do, how they might do it, and how they might report it. That was particularly the case in reviewing the selected methodology, given that some were novices in educational design and evaluation. Billett's willingness and availability to discuss the project and provide feedback on presentations, abstracts, ethics applications, and interview questions were highly valued. He was regarded as a good critical friend with a wealth of expertise on pedagogy and educational activities.

In addition, support from leaders in the health services and the heads of school in the universities was noted as significant in enabling success. The ongoing support provided by the project manager (Melissa Cain) to the leaders running the subprojects added a sense of security because potential problems were triaged efficiently and effectively.

**Good Partnerships** Considerable time and resources were allocated to ensuring that participants would know who would be participating in the wider project and how to connect with them. Also, time was allocated at the first meetings to allow for significant attention to formal and informal introductions. These strategies promoted both intellectual and social engagement from key staff at the partner health-care institutions and universities. Having strong peer networks between these different participant cohorts enabled potential barriers to be broken and partnerships established.

**Effective Teamwork** The establishment of working teams was underscored as being a major factor in enabling success, as noted earlier in the reporting of the significant challenges. This was particularly the case when the teams had representation from both universities and health-care service providers. Accompanying this observation was cautionary advice that future subproject leaders needed to be highly circumspect in the recruitment and building of project teams. Ensuring that those recruited to the project teams understood and valued the expectation of regular team meetings to discuss progress against the timeline was noted as being a significant enabler.

**Community of Practice** The project leaders reported that they highly valued opportunities to discuss the overall project with their peers and that they were given the chance to have their proposal peer-reviewed, as well as to conduct a peer review themselves. Similarly, they appreciated the presence of a larger community of practice of similar people coming together to develop similar projects that grew from being part of the bigger collegial environment created by the February 2016 *Dialogue Forum*. This aspect of the project design was highly underscored, as was recognition of the teams' palpable willingness to collaborate and work together and their evident enthusiasm and belief in the value of the work. Particular mention was also made regarding the inclusion of clinical and academic teams in project development and delivery and recognition that the individuals at the coalface should be given the opportunity to gain publications as outputs.

**Commitment to Quality Student Learning** The discourse at the *Development Conference* and in the survey of project leaders recognised that within the project as a whole there continued to be a commonly shared concern for the quality of student learning. This concern was transferred within the individual subprojects. The presence of strong motivation and desire to maximise students' learning in meaningful ways was a significant factor in successfully enacting the project.

**Regular Reporting** Subprojects were expected, and required, to engage in regular reporting to the central project team. Templates and clear guidelines were provided for each report so that such reporting was focused and efficient. The project leaders reported that this aspect of consistent, structured project management was highly enabling and encouraged compliance.

**Funding** The project leaders underscored the importance of funding support for the projects. This was a strongly felt issue because it gave credence and a sense of worth to their projects, both in the practice and university settings, and justified the allocation of their time to their projects' execution.

**Student Participation** Recognition was paid to students' willingness to volunteer to participate in the subprojects, some of which were only pilots at the time and not part of a core curriculum. Recruiting students for piloting innovations had the potential to be a major stumbling block. In both the survey and in the reports at the *Development Conference*, the willingness and level of student engagement was a highly motivating factor.

### *16.4.3 Advice from Stage 1 Participants to Future Project Leaders and to Billett*

Finally, what follows is the advice to the Stage 2 project leaders provided by the Stage 1 participants (Class of 2016, the Health Care profession project leaders):

1. *Grasp and value the opportunity to participate*. The overall message throughout the responses was that engagement in this project, with the benefit of Billett's expertise in the field, his style of providing support and guidance, and the accompanying resources, provided a significant opportunity to be embraced wholeheartedly. In particular, they recommended full engagement and deliberate use of the two-day conference to get their project started. They also advocated staying linked to the bigger project over time while conducting their individual projects.
2. *Selecting the right project.* The importance of selection of the right project was underscored, and careful, focused consideration was recommended. Stage 1 project leaders recommended that it was important to keep the big picture in mind as ideas for its execution were developed. This focus on the big picture needed to be balanced against a focus on issues of current concern, especially those relevant to the students. The class of 2016 argued that the new project leaders should base their final choice on early consultation with end-users and build on the work of others where appropriate. Finally, they underscored the importance of ensuring that the project was doable within the limits of the time frame and available resources.
3. *Selection of the team.* The project leaders were adamant regarding the importance of team selection. They advocated choosing people who would be active and engaged participants, would meet deadlines, and would ensure that stakeholders such as students and other end-users were included in the communication and processes. They advised that these groups should be consulted and engaged from the outset.

4. *Planning*. The project leaders advised that planning and goal setting, involving time frames, meeting deadlines, and clear division of labour amongst the project team members, were all important for successful achievement of the project. Furthermore, they stressed the importance of ensuring that time was used wisely at the initial workshop (*Development Conference*) to clarify and scope the project.
5. *Communication*. Remaining in communicative contact with the project leaders and participants was perceived as very important to ensure their awareness of any issues that may arise. In addition, it was emphasised that communicating and collaborating with similar projects was helpful in debriefing on progress and in gaining ongoing peer feedback.
6. *Early planning for evaluation*. The Stage 1 leaders had come to realise that evaluation design and its processes needed to be planned and established from the outset. They understood that information could be collected and used to ascertain the effectiveness of the intervention and justify its continuation in order for it to become embedded in the ongoing educational programme. They emphasised the importance of early attention because ethics clearance may be required, which may take time. It was also advocated that they look to similar projects when designing the evaluation, so that some cross-project comparisons could be made.
7. The advice Stage 1 project leaders had for Billett for leading and managing the next generation of projects included the need to:

    - Provide links to research in similar fields.
    - Foster small working groups of like projects.
    - Publicise quarterly updates on all projects.
    - Follow these students over the first 2–3 years of their graduate work to understand how activities in their studies may have met their employment needs.
    - Continue to be available for formal and informal discussions.

### *16.4.4 Challenges Accommodated in Project Implementation*

Clearly, Billett had anticipated many of the challenges raised by participants. This is possibly due to his prior experience in conducting similarly designed WIL educational development projects in health science programmes. Through his anticipation, he ensured that the design of the project attended to his predictions. From the outset, time was allotted for considerable discussion with participants regarding the need for post-practicum augmentation of the learning. He also enlisted the students' voices on the matter, which helped to persuade participants that students would be amenable to the introduction of further learning activities related to their recent workplace engagement.

### 16.4.5 WIL Leadership

Both the intellectual and supportive leadership was a major strength of this project. Billett's leadership in WIL has had a significant impact nationally and internationally on research, programme development, and practice disciplines and professions. Through his scholarship, academics and practitioners in partnership have come to consider that there is a place within a university degree for the deliberate integration of theoretical knowledge and opportunities for practice in workplace settings that are not limited to graduate professional accreditation. This means that the subproject participants knew Billett to be a leading scholar in Australia in adult learning, the integration of work and learning in the VET sector, and then in higher education. It is notable that in the evaluation survey, a significant proportion of the subproject leaders noted that their respect for Billett's academic standing in the field was an important motivation for their engagement in the project. From the outset, in no small measure, his known expertise helped to establish trust and confidence amongst the subproject leaders.

### 16.4.6 Readiness for Change

Despite the fact that scant attention has been paid to post-practicum augmentation of learning, for some time, Billett has been known for publicly noting its absence (Billett, 2006, 2018). Increasingly, universities have been turning their attention to the question of graduate employability, and the health-care sector itself has been seeking to recruit graduates who were ready and fit for autonomous practice upon appointment and who they could retain in practice settings to achieve more sustainable development of accumulated expertise. Trust in Billett as a leader due to his track record of enabling successful project outcomes and his flexibility and autonomy of individual projects augmented by ongoing support, combined with a ubiquitous concern regarding graduate employability and staff retention, helped to create an environment that accepted the need to address the invisibility of, and gap in, WIL practices in regard to post-practicum learning. Hence, the targeted audience was ready to engage in the project and was largely supported by their institutions at leadership level.

### 16.4.7 Availability of Resources

Attempting to achieve such a comprehensive and sustained project over 3 years requires significant resources. This project was one of the last funded by the now disbanded Office of Learning and Teaching, itself funded by the federal government. The project leaders all noted that a motivating factor for their engagement was

the availability of funds to carry out this project. This, of course, is an important factor at the inception of a project. It remains to be seen just how much the project resources and outcomes will be sustained, embedded in work practices, and upscaled to other programmes once the funds and the project are completed. The programme was also based on a distributed leadership model, in which subprojects were provided with funds and support for leaders to devise their own focus and strategy for developing a post-practicum learning project.

That said, measures to promote the sustainability of the project's focus and outcomes have been carefully staged to incrementally develop frameworks and strategies generated from practice by the practitioners to foster embedding and upscaling of new initiatives in post-practicum learning. For example, the literature review, survey analysis, and templates for developing the reporting progress ensured that learning within the projects was grounded on what was already known and captured and recorded new learning for future implementation.

### *16.4.8 The Development of Peer Networks*

It is quite clear in the design of the project as a whole that fostering and maintaining supportive peer networks was a high priority. Email communication prior to the Stage 1 project group coming together ensured that participants would know who would be present. In addition, the activities at the *Dialogue Forum* ensured that its title reflected its intention. The *Development Conference* format sustained the development of peer networks and peer feedback, as well as enabling Stage 2 to build on the learning from Stage 1 projects.

## 16.5 Conclusions

The participants in this project were challenged in their attempts to introduce a new and neglected aspect of WIL, namely, the augmentation of learning post placement. This will always be the case; this project was no exception. If a new education project is to be innovative, it is always going to require changes to everyday practices and ways of thinking, in this case, seeking a place in contested and overcrowded curriculum space and requiring additional practices by time poor and time jealous teachers and students. There is no easy project design formula for designing approaches that will ensure success. Each WIL project occurred in a different context and involved participants with diverse histories, dispositions, and constraints. The intersections of these factors contribute to project design and development being a wicked problem. Just because a solution is found in one instance, there is no guarantee that it will be a good fit in another instance. The interpersonal interactions, motivations, and dispositions do matter. There are, however, some key principles that were enacted that enabled this project and its 32 subprojects to experience

success. Firstly, the design of this overall project took account of the need to ensure that there was a valuing of human interaction and mutual support. Secondly, it regarded project participation at each level to be a learning experience for all participants. Thirdly, it was driven by a clear, unambiguous, and explicit vision that was explained and justified. Fourthly, it was supported by supportive leadership as well as management, both of which had clearly defined roles that focused on their unique contribution to achieving the project's intended goals. Fifthly, it established clear goals, with expectations that engagement with the project should adhere to its original intention and do so well within its planned time frame, providing clear guidelines and resources for doing so.

While Billett's influence is due in no small part to his own scholarship through funded research and fellowships, it has also been directly impacted by his consistent approach in such projects, focusing on niche issues and exploring their development directly with those who will lead its practice in the longer term. He and the participants of other similar projects of which this is just one instance grapple with a single issue and then explore and document multiple ways in which it may be confronted through supported implementation of innovations within the practice area.

The projects themselves are well on the way to establishing and embedding new practices in related practicum education and have been systematically evaluated so that they are evidence based and can then be shared, embedded, and upscaled. Most projects were evaluated systematically using summative assessment, which can be used to justify their uptake by others. It is noted that many of the projects had devised sound learning activities. However, aside from the achievement of the project goals, the projects were productive learning experiences in and of themselves for both students and their teachers. In addition, these projects have been vehicles for the enhancement of mature, productive relationships between health-care providers and academic educators of the next generation of health-care practitioners.

Given the significant resources expended on securing work experience for students across the full range of university programmes, this project has direct relevance and utility across the Australian higher education sector. Hopefully, the sector will welcome and value its outcomes and will support its impact through embedding, adapting, and upscaling the new models of post-practicum learning in curricula across diverse academic programmes.

## References

Billett, S. (2006). Constituting the workplace curriculum. *Journal of Curriculum Studies, 38*(1), 31–48.

Billett, S. (2011). *Curriculum and pedagogic bases for effectively integrating practice-based experiences*. Strawberry Hills, Australia: Australian Learning and Teaching Council.

Billett, S. (2015). *Integrating practice-based experiences into higher education*. Dordrecht, The Netherlands: Springer.

Billett, S. (2018). Augmenting post-practicum experiences: Purposes and practices. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences*. Dordrecht, The Netherlands: Springer.

Fullen, M., & Miles, M. (1992, June). Getting reform right: What works and what doesn't. *Phi Delta Kappan, 73*, 745–752.

Grealish, L., Mitchell, M., Armit, L., van de Mortel, T., Shaw, J., Mitchell, C., et al. (2018). Using learning circles to develop intersubjectivity. In S. Billett, J. Newton, G. D. Rogers, & W. Nijhof (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Lane, I. (2007). Change in higher education; understanding and responding to individual and organisational resistance. *Journal of Veterinary Medical Education*, *34*(2):85–92, Spring, AAVMC.

Marshall, S. J., Orrell, J., Cameron, A., Bosanquet, A., & Thomas, S. (2011). Leading and managing learning and teaching in higher education. *Higher Education Research and Development, 30*(2), 87–103.

McKenzie, J. A., Alexander, S. A., Harper, C., & Anderson, S. (2005). *Dissemination, adoption and adaptation of project innovations in higher education*. Report commissioned by the AUTC for the Carrick Institute, Sydney.

Murphy, M., Halton, C., & Dempsey, M. (2008). The transfer of reflective engagement from social work education into the workplace: A study of the value of scaffolded reflection. *Irish Educational Studies, 27*, 71–80.

Orrell, J. (2011). *WIL good practice report*. Sydney, Australia: Office of Learning and Teaching.

Perrone, L., & Vickers, M. (2003). Life after graduation as a "very uncomfortable world": An Australian case study. *Education & Training, 45*(2), 69–78.

Rogers, G. D., Parker-Tomlin, M., Clanchy, K., & Townshend, J. (2018). Utilising a post-placement critical assessment task to consolidate interprofessional learning. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht, The Netherlands: Springer.

Sachs, J., Rowe, A., & Wilson, M. (2016). *2016 good practice report: Work integrated learning (WIL)*. Sydney, NSW: Office for Learning and Teaching, viewed 11 Jul 2017 at: http://www.olt.gov.au/system/files/resources/WIL%20Report%20final%202017.pdf.

Southwell, D., Gannaway, D., Orrell, J., Chalmers, D., & Abraham, C. (2010). Strategies for effective dissemination of the outcomes of teaching and learning projects. *Journal of Higher Education Policy and Management, 32*(1), 55–67.

# Index





S. Billett et al. (eds.), *Augmenting Health and Social Care Students' Clinical Learning Experiences*, Professional and Practice-based Learning 25,
https://doi.org/10.1007/978-3-030-05560-8