Chapter 9
Review of Literature on Attrition

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

9.1 Introduction

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

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

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

9.2 Attrition from On-Campus Learning

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

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

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

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

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

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

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

9.3 Tinto's Model of Attrition

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

9.3.1 Van Gannep's Rites of Passage Theory

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

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

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

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

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

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

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

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

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

9.3.2 Durkheim's Theory of Suicide

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

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

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

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

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

9.3.3 Tinto's Model of Student Integration

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

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

9.3.4 Tinto's Model in the Context of Online Learning

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

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

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

9.3.4.1 Rites of Passage

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

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

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

9.3.4.2 Integration of Online Students

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

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

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

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

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

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

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

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

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

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

9.4 Literature on Online Student Attrition

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

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

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

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

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

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

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

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

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

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

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

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

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

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

9.5 Student Engagement

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

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

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

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

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

9.6 Integration and Student Engagement

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

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

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

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

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

9.7 Identifying the Gap in the Literature

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

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

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

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

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