

Student Attrition and Completion: What is it that we are actually trying to measure?

Peter Ryan^{a*} and Gary Greig^b

^a Founder and CEO, Higher Education Leadership Institute, Australia

^b Dean, Higher Education Leadership Institute, Australia

*Corresponding Author: pryan@heli.edu.au

Abstract

As student attrition rates become an increasingly important regulatory risk indicator for higher education institutions what do student attrition statistics actually measure? Not every student that leaves a course does so because they are struggling academically. On the contrary, many students leave their course for positive reasons with successful outcomes. This paper analyses the various reasons why students drop out of a course and proposes a different paradigm for managing and measuring student attrition rates so that the risks associated with student attrition can be correctly recorded and effectively managed.

Key words: student retention, student attrition, risk, risk management

Introduction

The aspiration to raise retention rates in the higher education sector generally, and tourism and hospitality schools specifically, requires understanding the underlying reasons for student disengagement, transfer and withdrawal (Harvey and Luckman, 2014). While there is a direct correlation between subject failure and student attrition, students may leave a course for many other reasons unrelated to academic performance. Also, students who do not complete a course may still benefit from skills they have developed by participating in part of a course.

In this paper, we review a range of definitions and concepts that have contributed to the current understanding and measuring of student attrition. We then discuss various reasons for student attrition and argue why these should be classified into different categories. Finally, we propose strategies for reporting student attrition in a way that informs key stakeholders so that decisions are based on measures of actual risk rather than perceived risk.

While this paper has been developed in an Australian context, it has underlying implications which may apply in other countries.

Literature Review

Traditional measures of student attrition and completion

As Hagedorn notes in relation to the measurement of student attrition “Higher Education researchers will likely never reach consensus on the ‘correct’ or ‘best way’ to measure this very important outcome” (2006,

p.2). Nevertheless, an analysis of traditional measures of student attrition and completion is necessary to provide context to what is a vexing issue.

The Australian Department of Education measures a higher education provider's retention rate for year (x) as the number of students in year (x) who continue in year (x + 1) as a proportion of the students in year (x) who did not complete the course in year (x) (Olsen, 2007). For example, if 100 students studied at an institution in 2015 and 50 continued to 2016 and 25 completed the course in 2015, the student retention rate would be 67% (50 divide by 75).

Similarly, the Tertiary Education Quality and Standards Agency (TEQSA) defines attrition as the proportion of students commencing a course of study in a given year who neither complete nor return in the following year (TEQSA, 2016a). TEQSA (2016b) further classifies attrition as one dimension of the effectiveness of the delivery of education services.

While the above calculations seem straightforward they have an inherent weakness as they ignore students who defer and return in later years or students who transfer to another institution and continue their studies. Also, these traditional methods of measuring attrition rates ignore variations in approaches for measurement depending on what is most relevant to the circumstances of a higher education institution and the intentions for measurement. Variations that should be taken into account include quality issues related to student selection and admission processes, the quality and effectiveness of teaching and learning processes, and the overall student experience. It should be acknowledged that the systematic and consistent monitoring of student outcomes to compare performance is an essential quality process on par with exploring, analysing and reporting on the factors and variations that also contribute to student attrition.

The exploration of factors that contribute to attrition is the primary focus of Beer and Lawson (2016). The authors propose an alternative perspective on student attrition noting that, despite vast expenditure, Australian universities have made little in-roads on student attrition despite its impact on reputation and revenue. By using a regional Australian university as a case study, they analyse a student exit survey to identify the complex and interrelated array of factors that contribute to attrition. The analysis highlights the need to reconceptualise attrition so that different approaches to handling student attrition may become apparent. They note that attrition is a complex and sometimes unpredictable challenge and that the issues that confront a student this year may not be the same issues they must contend with next year. However, when institutions move from plan-based strategies to collaborative, networked, and agile strategies solutions may emerge to better address these underlying complexities.

A collaborative and networked approach shares the power to investigate attrition and develop solutions across a range of stakeholders. Underpinning this approach is to engage broader stakeholder commitment to finding more comprehensive solutions and in so doing use fewer resources on a per stakeholder basis. Reconceptualising student attrition changes the problem-solving methodology from one of a traditional reductionist approach to one based on agility and collaboration (Beer & Lawson, 2016).

Othman Aljohani (2016) researched the historical evolution of student attrition and critically reviewed the major conceptual and theoretical models that have since emerged. He cites Spady (1971) as the first sociological student retention model that identified two systems at play: the Academic and the Social. Each system has at least two factors that influence a student's decision to withdraw: grades and intellectual development in the Academic system and normative congruence and friendship support in the Social system. At the conclusion of his paper, Aljohani notes that Tinto, a prominent proponent of a retention model, criticised his earlier theoretical model of 1975 stating "it does not adequately distinguish between those behaviours that lead to institutional transfer and those that result in permanent withdrawal from higher education" (Aljohani, 2016, p.10).

The literature indicates that the issue of student attrition continues to persist as a complex and multi-faceted problem for higher education institutions. To effectively address student attrition requires an institution to not only measure performance outcomes and effectively interpret that data, but to also take into account known or suspected factors and variations that directly and indirectly impact on a student's academic and social engagement within and beyond the higher education institution.

Factors of student attrition

Students often leave a course because of a combination of interrelated factors (Mohr, Eiche, & Sedlacek, 1998; Wintre, Bowers, Gordner, & Lange, 2006). There are students who withdraw from a course for academic reasons, such as subject failure and conversely, there are students who withdraw for reasons other than poor academic performance.

For example, a student who starts a course with institution A, may have preferred to go to institution B, but did not meet institution B's initial entry requirements. After studying at institution A for, say, one year, the student is now eligible for entry into institution B based on their academic achievement at institution A. This is a positive outcome for both the student as well as an academic success for institution A.

Other students may transfer to another institution because a different institution better suits their career path or the original institution, even if it was the student's first choice, turned out to be not the best fit for the student. Financial reasons may also play a part in inter-institutional transfers as a student may be encouraged to move from an institution with a non-subsidised course to one which carries a public or private subsidy. Capturing these inter-institutional movements is important as transfer rates may be significant.

There is ample evidence that in Australia, the UK and the USA there is substantial transfer between institutions. This is illustrated in a follow-up survey of those who withdrew from their courses at six UK universities where over half indicated that they had already returned to study in higher education and a further 20% indicated that they intended to do so in the near future (Yorke, 1999, p.53 as quoted in Gabb, Milne & Cao, 2006). Likewise, according to the National Center for Education Statistics (2003), 23.2% of all of the 1995-96 first-time beginning students transferred to another institution before the end of their course.

Financial pressure is also a common reason why students leave a course. Higher education course fees are a significant financial investment. While income contingent student loans may be available to many students, some students, including international students and non-citizens, have significant fees to pay for each study period. An inability to pay those fees, or come to some mutually agreeable arrangement with the institution for payment over time, may result in a student leaving a course.

Students may also leave a course due to an employment related issue. For example, a part-time student that is also gainfully employed may get a promotion that requires them to transfer to another location, sometimes in another country. For an on-campus student this may mean withdrawing from their course, although this may then result in a transfer to another institution as noted above. Online options may ameliorate attrition for this reason, but online study is not the preference of all students, especially those that prefer the face-to-face interaction that comes with being on campus.

Conversely, a full-time student may gain employment in the job they were seeking (or similar) due in part to studies already undertaken. With the outcome achieved before completing their course the student may feel it is not necessary to complete their course and subsequently withdraw. In other circumstances, after gaining full-time employment, the student may be unable to continue to study and will subsequently withdraw from their course.

Family related issues may also lead to student attrition. Issues such as pregnancy, marriage and time away from family may cause a student to withdraw from their course due to family/personal reasons.

In this paper we argue that if a student withdraws from a course while they are performing well academically then this category of non-academic (social) attrition should be isolated and reported separately.

Methodology

Through the available literature, the key risk factors for students leaving a course were analysed and categorised. For each key risk factor strategies have been suggested to ameliorate the risk of student attrition. Finally, based on the categorisation of the key risk factors of student attrition a new method of recording student attrition is proposed.

Results

The research has determined that student attrition falls into two main categories: academic attrition and non-academic or social attrition. Furthermore, the non-academic/social category includes four subcategories as shown in Table 1 below.

Table 1: Categories of student attrition

Categories of student attrition	
Academic Grades & intellectual development	Non-academic or Social Normative congruence & friendship support
<ul style="list-style-type: none"> • Academic failure 	<ul style="list-style-type: none"> • Inter-institutional transfer • Financial pressure • Employment-related issues • Family/personal-related issues

Furthermore, each of these categories present different risk factors to an institution. In Table 2 we present strategies that an institution may deploy to ameliorate the risk of student attrition.

Table 2: Strategies to ameliorate the risk of student attrition

Strategies to Ameliorate Risk of Attrition		
Key Risk Factor	Academic Grades & intellectual development	Non-academic or Social Normative congruence & friendship support
Academic failure	<ul style="list-style-type: none"> • Interrogate admission requirements • Innovative formative assessment • Support mechanisms for students at risk • Offer academic skilling & study support programs • Offer academic literacy & English language proficiency programs 	
Inter-institutional transfer		<ul style="list-style-type: none"> • Make first institution the preferred option for students (a sense of belonging) • Consider bursaries /scholarships
Financial pressure		<ul style="list-style-type: none"> • Consider student loans and payment plans • Consider bursaries /scholarships
Employment-related issues		<ul style="list-style-type: none"> • Offer online / blended options • Offer part-time mode • Allow deferrals without penalty
Personal/family-related issues		<ul style="list-style-type: none"> • Institution has family friendly options (childcare) • Offer online / blended options • Offer part-time mode • Allow deferrals without penalty

Discussion

As noted above, the research has determined that student attrition falls into two main categories: academic attrition and non-academic or social attrition. In the non-academic/social category four subcategories are also identified: inter-institutional transfer; financial pressure; employment-related issues; personal/family-related issues.

An indication of the types of factors that contribute to student retention in both academic and non-academic/social categories was the focus of a UK-funded research project and report (Thomas, 2012). The report presents a compelling case that employing strategies to boost student engagement and a sense of 'belonging' significantly improved retention and completion outcomes. Strategies recommended include embedding engagement activities into mainstream institutional interventions and approaches. This would include activities (academic, social, professional) early in and throughout the lifecycle of a student which develop the capacity of students and staff to engage proactively and responsibly. Such services are best where an 'opt-out' rather than 'opt-in' approach is implemented with additional support provided if necessary for those students who do opt-out. Central to these types of proactive strategies to reduce attrition and increase student success is the institution taking responsibility for nurturing a culture of belonging. This requires the necessary infrastructure, information resources, monitoring, and review processes to accurately assess outcomes and implement follow-up action where there is evidence of low levels of engagement.

A further indication of the importance of the institution's role in helping to enrich the student experience irrespective of the mode of education delivery is provided by Shah and Richardson (2015). They note that "despite ongoing monitoring of the student experience by the Australian government since 1987 and by universities through their internal quality assurance processes, there has been only a limited trend for improvement across the university sector" (2015, p.354). While the authors focus on government and university policy to link student experience measures to performance funding, they nevertheless highlight the increasing importance of the student voice to improve the overall learning experience of students. This shift in government and university policy should, in turn, contribute to improving retention and success rates by allocating resources that address the key issues about which students are most concerned. Those issues that typically affect the quality of the student experience include "student-to-teacher ratios, the influence of information and communication technology in learning, the quality of teaching and administration services, and the removal of compulsory non-academic fees" (2015, p.355). The authors close their analysis by highlighting that when universities and other higher education institutions leverage the quality of the student experience as a strategic priority, changes are made to curriculum, assessments, teaching methods, and other support services and campus life activities. This must bode well for improving the quality of academic and non-academic/social systems to enhance the engagement of students in the learning experience and contribute to their retention and success.

Based on the research it is proposed that student attrition statistics at a higher education institution should be broken down into the two main categories: academic and non-academic. It is further proposed that non-academic attrition should be further broken down into the four subcategories identified in Table 1.

Through this type of detailed analysis institutions will be able to determine the various factors why students may leave a course and deploy strategies to ameliorate student attrition. This in turn will assist an institution to manage its regulatory risk profile and in doing so ameliorate the risk of regulatory sanction in the case of 'high' student attrition, if that can be identified as occurring predominantly due to non-academic factors.

Conclusions, Limitations and Future Research

Table 1 above proposes a methodology for categorising why students leave a course to facilitate measurements of student attrition that more accurately reflect the risk profile of an institution. Student attrition resulting from academic factors compels an institution to interrogate its academic quality systems to determine what parts of the academic process might be adjusted to support students' academic progress to completion. Conversely, students leaving a course for non-academic (or social) factors will require different support mechanisms to encourage them to 'stay the course'.

Table 2 above suggests a number of strategies that institutions may deploy to manage student attrition and thereby increase their rates of student retention.

A limitation of the research is that students may leave a course due to a combination of interrelated factors and this study focuses on withdrawal based on a single factor. For example, a social factor, such as a family/personal related issue, may result in poor academic performance. However, even when two or more factors may be identified when a student leaves a course the mitigation strategies proposed, working in concert, will still help ameliorate overall student attrition.

A further limitation of the research is that institutions may not have a mechanism to accurately capture the reasons why a student has left a course. Without accurate data, an institution will not be able to appropriately manage its risk around student attrition and may face regulatory sanction as a result.

Therefore, future research might focus on methods to accurately capture the reasons for student withdrawal to improve the quality of data collected on student attrition. This will allow decision makers to better understand the key reasons for student attrition and put into place more sophisticated strategies so that the risks associated with student attrition can be correctly recorded and effectively managed.

References

- Aljohani, O. (2016). A comprehensive review of the major studies and theoretical models of student retention in higher education. *Higher Education Studies*, Vol. 6, No. 2; 2016.
- Beer, C. & Lawson, C. (2016). The problem of student attrition in higher education: An alternative perspective, *Journal of Further and Higher Education*, DOI: 10.1080/0309877X.2016.11771712016.
- Gabb, R., Milne L., Cao, Z. (2006). Understanding attrition and improving transition - A review of recent literature. Postcompulsory Education Centre. Accessed February, 22 2017 from: https://www.researchgate.net/profile/Lisa_Milne3/publication/237632757_Understanding_attrition_and_improving_transition_A_review_of_recent_literature/links/543f06f10cf2eac07e80d58.pdf
- Hagedorn, L.S. (2006). *How to Define Retention: A New Look at an Old Problem*. Transfer and Retention of Urban Community College Students (TRUCCS). Accessed February, 22 2017 from: <http://files.eric.ed.gov/fulltext/ED493674.pdf>
- Harvey, A. & Luckman, M. (2014). Beyond demographics: Predicting student attrition within the Bachelor of Arts degree. *The International Journal of the First Year in Higher Education*, 5(10. 19-29).
- Mohr, J., Eiche, K., & Sedlacek, W. (1998). So close, yet so far: Predictors of attrition in college seniors. *Journal of College Student Development*, 39, 343-352.
- National Center for Education Statistics (2003). The Integrated Postsecondary Education Data System (IPEDS). Accessed February 22, 2017 from: <http://www.nces.ed.gov/ipeds/>
- Olsen, A. (2007). *Staying the Course: Retention and Attrition in Australian Universities*. Australian Universities International Directors' Forum. Accessed January,21 2017 from: <http://www.spre.com.au/download/AUIDFRetentionResultsFindings.pdf>
- Shah, M. & Richardson, T. E. (2016). Is the enhancement of student experience a strategic priority in Australian universities? *Higher Education Research & Development*, 35:2, 352-364.
- Spady, W. (1971). Dropouts from higher education: Toward an empirical model. *Interchange*, 2(3), 38-62. <http://dx.doi.org/10.1007/BF02282469>
- TEQSA (2016a) *TEQSA Glossary of Terms*. Tertiary Education Quality and Standards Agency website. Accessed February,1 2017 from: <http://www.teqsa.gov.au/media-publications/glossary>
- TEQSA (2016b) *Risk Assessment Framework*. Tertiary Education Quality Standards Agency. Melbourne. Accessed February,1 2017 from: http://www.teqsa.gov.au/sites/default/files/publication-documents/TEQSARiskAssessFramework_v2.1_1.pdf
- Thomas, L. (2012). *What works? Student retention and success*. Paul Hamlyn Foundation.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research, *Review of Educational Research*, 65 (Winter): 89-125.

Wintre, M., Bowers, C., Gordner, N., & Lange, L. (2006). Re-evaluating the university attrition statistic: A longitudinal follow-up study. *Journal of Adolescent Research*, 21(2), 111–132.

Yorke, M. (1999). *Leaving early: undergraduate non-completion in higher education*. Falmer, London.