Why student retention fails to assure quality

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Abstract: *Can data on student retention be used to validly infer anything about the quality of the educational experiences offered to students? The question is important because universities are using data about retention rates to inform quality management initiatives without any theoretically grounded understanding of the relationship between student retention and educational quality. The lack of scrutiny of the use of attrition data to demonstrate educational quality is symptomatic of a broader problem, namely that 'quality indicators' are proposed without adequate regard for educational research that is readily available and might caution against their use. Although it has been recognised that the issue of student attrition is complex and that multiple factors influence student attrition, this has not been adequately considered when student attrition data has been claimed as a quality indicator for higher education. Before student retention can be accepted as a valid indicator of educational quality it must satisfy certain requirements. Crucially, it must be possible to describe a continuous theoretical path that explains the relationship between student attrition and an acceptable definition of quality. This paper will examine whether the models that claim to explain student attrition are theoretically coherent and whether they can be used as the basis of a model that will link retention rates to educational quality. The results of this analysis illustrate a process that may be applied to test the theoretical sufficiency of other proposed quality indicators.*

Keywords: *Student Attrition, Higher Education, Quality*

Introduction

Several government sponsored research reports, for example, Kemp in (Elson-Green, 2001) (McKinnon, Walker, & Davis, 2000) recommend that data on student retention (and student progress rates) are used in universities in Australia as 'quality indicators', for quality assurance purposes. Educational research, however, indicates that student attrition is a very complex phenomenon (McInnis, Hartley, Polesel, & Teese, 2000; Tinto, 1993; Yorke, 1999). The general problem that this paper tackles is how to integrate the findings within educational research into discussions about quality measurement in higher education. The specific problem discussed in detail is how to integrate the literature on student retention and attrition with the literature on quality assurance in higher education.

Quality indicators and validity

'Quality indicators' depend for their validity on the existence of a continuous theoretical path that explains the relationship between the data and an acceptable definition of quality, they depend on the validity of underlying 'justificatory propositions' upon which they are founded.

Frequently these justificatory propositions are neither explicitly stated nor tested. This paper will propose a method for checking the validity of quality indicators by identifying their underlying justificatory propositions, and by testing the justificatory propositions against existing educational research. This method will be applied to attrition claims and conclusions will be drawn about whether attrition data can be validly used to support quality claims, as typically made, in higher education.

Justificatory propositions and student attrition

In the case of student retention, there are two conflicting 'common sense' justificatory propositions about the relationship between student retention and quality.

Proposition One: good quality courses retain students better than poor quality courses, because the quality of their teaching is superior.
Proposition Two: high retention rates are indicative of low standards because high quality courses exclude or encourage the departure of a greater proportion of poorly performing students than low quality courses that make more limited academic demands upon students.

This paper will illustrate the importance of making explicit and testing the validity of implicit justificatory propositions against existing research findings in higher education

A method for relating educational research to quality indicators

The method that has been developed has four stages. The validity of proposed 'quality indicators' as technical measures of educational quality depends upon the existence of an unbroken logical path between each 'indicator', what the 'indicator' purports to measure, and the theoretical basis that explains the process by which 'what is measured' can be linked to a specified concept of quality. This process can be expressed in question form as outlined in Table 1.

Table 1: Relating quality indicators to research literature

	Question	How
Stage 1	How is quality defined?	Identify a relevant concept of quality
Stage 2	Does this indicator actually measure, with sufficient accuracy, what it purports to measure?	Review literature to find evidence for the reliability of the measure
Stage 3	Is there a widely accepted model that informs the choice of justificatory propositions?	Review literature to identify models and how well they have been tested
Stage 4	Can the model be used to relate the phenomenon to an acceptable concept of quality?	Identify whether the model can provide a way of linking the concept of quality with the indicator

If this process is applied to attrition and retention data collected by institutions, the questions become:

1) How is quality defined?
2) Does the data collected about student attrition sufficiently accurately reflect the rate at which students depart from the university of their choice?
3) Is there an adequate model that explains why students leave their initially chosen university?

4) Can this model be used to relate student retention to an acceptable concept of educational quality?

These questions will now be examined in the light of existing research on student retention and attrition and quality.

Stage 1: The concept of quality

What concept of quality is retention data being used to support? Quality can be defined in many ways. For the purposes of this paper, quality will be viewed from the perspective of government policy, because this has strongly influenced the mainstream ways in which quality has been viewed within universities. The definition of quality assurance offered here is taken from Harman & Meek (2000) whose paper on quality in Higher Education aligns closely with government positions on quality assurance. They define quality assurance as:

> (The) systematic management and assessment procedures adopted to monitor performance and achievement and to ensure achievement of specified quality or improve quality. (Harman & Meek, 2000, p. 11).

They elaborate that the intended role of quality assurance in Australian higher education to allay

> Community and government concerns about academic standards and the levels of achievement of graduates in a time of major expansion in student numbers associated with the decreasing government funding support per student unit. (Harman & Meek, 2000,p. 11)

They explain that these outcomes should reflect the requirements of employers and the professions, the perceived needs for mobility of professional labour and of international competitiveness. It can be inferred from this that 'quality education', is defined as education that maintains academic standards and produces graduates who demonstrate high levels of achievement. This is the definition of educational quality against which the use of retention data will be assessed.

Stage 2: The measure: accuracy and relevance?

How is retention data collected and how accurately does the data reflect student retention? Retention data is currently used as an indicator of quality in one of two ways, either in its simple form or referenced to benchmarks. In its simple form, the number of students retained by the institution is compared with the number originally enrolled. When retention is referenced to benchmarks, the profile of enrolled students and the subject matter of each course is used to calculate the expected retention profile for any subject with any given student enrolment. Hence the expected overall retention rate for any Australian institution, with its unique mix of subject and enrolled student profile, can be calculated.

Doubt has been cast on the overall accuracy of institutions in collecting retention data because of the differences between institutions in the ways they record and calculate retention rates (McInnis et al., 2000, p15). The data on student retention are inconsistent, because of difficulties in determining how some students should be counted and whether the focus for data collection should be the unit, course, or institution in which the student is enrolled or the higher education 'system' as a whole (McInnis et al., 2000; Tinto, 1993; Yorke, 1999). There is some agreement. Students who formally withdraw are classified as 'not retained'. A 'retained student' is one who remains connected to an institution or course or 'the system'. Students who are enrolled at the relevant census date are 'retained'. Institutions differ in how

they categorise deferred and 'lapsed' students. Institutions sometimes treat students who have formally deferred as retained, because their non-enrolment is temporary, even though some deferred students will never return. What assumptions should an institution make about students 'lapsed' students who have not formally withdrawn, deferred or enrolled? If institutions assume that they have deferred (and are therefore retained), rather than withdrawn (and are therefore 'not retained'), they improve their apparent retention rate at a stroke, without changing the underlying circumstances. Moreover, these students remain 'retained', for the duration of their potential enrolment, which could be as long as ten years. McInnis also found that some institutions overestimate institutional attrition because their retention statistics were program related and counted students who changed courses as 'not retained'. Since institutions may choose what assumptions they make, the figures for any individual institution may either overestimate or underestimate student retention and data is neither cross-comparable, nor reliably accurate (McInnis et al., 2000). It is further argued that the use of simple attrition data as a measure of institutional quality is flawed because different institutions have different student intakes and some types of students are more 'attrition prone' than others (Shah & Burke, 1996). In response to this objection and the similar observation that student attrition is typically markedly different for different subjects (Shah & Burke, 1996), a method was developed whereby the expected attrition rate for any student group and subject profile could be predicted (DETYA, 1998). The student profile considered factors such as: age at commencement, gender, cultural background, socio-economic status and geographical origin, as these factors had been shown as statistically significant in predicting non-completion (McInnis, 2001; Shah & Burke, 1996). From this, expected institutional attrition rates are calculated. The method is open to criticism because students' individual socio-economic status was estimated from aggregate data for their postcode area.

To summarise, the research available indicates that institutional statistics on student attrition are unreliable because of differences in underlying accounting assumptions. Simple measures of attrition are inequitable because they do not take account of difference in student populations. Benchmarking overcomes this to some extent but the use of the postcode basis for assessing socio-economic status is unreliable as an indicator of individual socio-economic status.

Stage 3: Models to inform choice of justificatory propositions

What models explain the reasons for student attrition and are they satisfactory? From the perspective of using attrition data as an indicator of higher education, what is required is a model that will explain why students do not complete degree courses in which they enroll. In the past thirty years, several researchers have proposed models of student attrition. At least three separate lines of inquiry developed. In the USA, the dominant models were developed by Bean, who developed an organisational/ psychological model (Bean & Eaton, 2000), and by Tinto, who developed an interactional model (Tinto, 1993). Bean's model and Tinto's model spawned other variant models and syntheses. In the UK, Ozga & Sukhnandan, (Yorke, 1999) developed a separate model. A search of the English language higher education literature indicated Tinto's model of 'student departure' (Tinto, 1993) has become the most widely accepted model used to explain student attrition. Braxton et al. cited a previous study (Braxton, Sullivan and Johnson, 1997) where the researchers had found 400 citations and 170 dissertations discussing aspects of Tinto's model (Braxton, Milem, & Sullivan, 2000, p. 1). Tinto's model will form the basis of analysis in this paper because of its field dominance. Theoretically, Tinto (1993) claims that his model is based upon concepts developed by Durkheim and by van Gennep. From Durkheim, Tinto borrowed the concepts of social integration and academic integration. Durkheim developed the constructs of social and

intellectual integration within his theory to explain difference in aggregate rates of suicide in different cultures. From van Gennep, Tinto borrowed the concept of 'rites of passage' as the process for inter-generational transfer of knowledge and culture.

Based on these concepts, Tinto developed an interactionalist model to explain individual student departure. He used the concepts of student 'commitment' and 'goals and intentions' to explain individual decision-making and justified his use of these concepts empirically rather than theoretically. Tinto claims that colleges are made up of academic and social systems. The academic system concerns itself with the formal education of students and the social system centres on the 'daily lives and personal needs' of students and is made up of "those recurring sets of interactions among student, faculty and staff… outside the formal academic domain," (Tinto, 1993, 106). The central claim of Tinto's theory is that students are more likely to leave higher education when they are not well enough integrated into one or other of these systems or both. Tinto claims that the systems act separately and integration in one system does not imply integration in the other and he acknowledges that there is an asymmetry between the systems because of the possibility of involuntary departure arising from academic failure.

Critics of Tinto's model have suggested variously that the model overemphasises the role of the student in the departure process, leaving institutions the possibility of blaming students for their own failure (Yorke, 1999), or alternatively that it underestimates the choices made by students in making decisions about leaving college (Stage & Hossler, 2000). Braxton has suggested that the posited role of academic integration is not well supported empirically (Braxton & Lien, 2000). Others have criticised the theory for being too ethnocentric (Rendon, Jalomo, & Nora, 2000) or culturally normative (Tierney, 2000) in its assumptions.

At a theoretical level, Tinto's model is irretrievably confused. Durkheim's social theory of suicide was concerned with providing societal explanations of aggregate behaviour in populations and made no claims to explain individual behaviour. Durkheim explicitly rejected the validity of psychological explanation for social phenomena (Barrett, 1984). By contrast, Tinto uses Durkheim's concepts to underpin an explanation of individual behaviour. Van Gennup's theory was concerned with explaining how people were inducted into lifelong cultural roles in traditional tribal societies, while Tinto is concerned with how students are inducted into academic life, which for most students will be both limited in scope and short-term in duration. It is argued here that Tinto, in his most recent book (Tinto, 1993), unwittingly severs the links both with Durkheim and van Gennep, through his discussion of the ways in which college life is *unlike* the societies of Durkheim and van Gennep, in his responses to the criticisms of other writers, and in his discussion of the exceptions to the claims that arise from his model. If this is so, Tinto's model provides a social-psychological rather than a sociological explanation, and is vulnerable to the criticism of Bean and others (Bean & Eaton, 2000; Stage & Hossler, 2000) that it lacks adequate grounding in psychological theory, because of Tinto's unsupported empirical use of the concepts of commitment and goals and intentions within his theory.

To summarise, the most widely accepted model of student departure appears to have both theoretical and empirical weaknesses. These weaknesses limit the usefulness of this model in explaining how data about student attrition can be validly linked to any concept of educational quality and choosing between justificatory propositions.

Stage 4: Explanatory links to educational quality

How does the best model provide an explanation that can be used to link attrition data to the chosen concept of quality? Suppose, for the purposes of argument, that Tinto's model had been found to be adequate. Could the model justify claims that attrition data demonstrates

educational quality? The purpose of quality assurance as defined earlier, was to demonstrate to the community and to government that universities are maintaining academic standards and producing graduates who meet the needs of employers and the professions.

Tinto's model claims that students leave university if they are inadequately integrated into the social and or academic systems. Although Tinto acknowledges that some students are able to continue their studies even if they are social isolated, he assumes that these will be the exceptions to the normal process. Tinto's model suggests that some students leave university prematurely because they do not integrate socially, because they feel socially uncomfortable in the university environment, they are unable to make friends, or because they do not want to lose their friends from school or their local neighbourhood who do not attend university. His model also suggests that some students leave university because they do not integrate academically, they find difficult, or do not enjoy the ways the teaching and learning processes are structured, they find something else they would rather do with their lives, they discover that the subject in which they have enrolled does not interest them as much as they expected or because they fail academically and are excluded.

Tinto's model claims that any of these factors may negatively influence the commitment of the student to continuing their university education and may cause them to re-assess their life goals and intentions. In some circumstances, it might be argued that the change in the student's commitment to continuing university is a legitimate response to lack of educational quality of the programs offered to students. For example, it has been long suggested that culturally insensitive or racist attitudes increase the likelihood that black students will withdraw from university. In other instances it appears the student's desire to re-assess their life goals may be independent of the educational quality of the course or may even occur because the educational quality of the course either broadened the student's horizons and enabled them to choose a different life path or made demands that the student did not meet. Therefore Tinto's model cannot be used to establish a link between student retention and the requirements of quality assurance, either positively or negatively, in the absence of other evidence.

Can benchmarking overcome this problem? In the absence of an adequate explanatory model, does benchmarking overcome these difficulties? Benchmarking does not assume that it is necessary to know how or why something occurs, but only the extent to which the phenomenon under observation deviates from previously identified norms. This position does not overcome the problem with assumptions about the meaning of retention and attrition. The retention data compared with predicted institutional norms, show the extent to which the actual retention deviates from what is expected, but without an explanatory model, nothing can be inferred about quality, unless the quality of the course is defined primarily as its ability to retain students. Few academics or policy makers would wish to publicly support this position, which values retention more highly than student development or the maintenance of academic or professional standards within academia.

To summarise, even if the model were valid, it could not provide an explanation that would support the use of retention data as an indication of quality, using the definition chosen in stage 1. Benchmarking is still ultimately dependent on explanatory models to provide a rationale for linking data to the chosen concept of quality

Conclusion

This method formalises the process of answering the question: 'Can a coherent theoretical path be drawn between the entity about which data is being collected and a chosen definition

of quality?' It could be applied to 'test' the same data, against multiple concepts of quality, or to assess the validity of different data collection methods against a single concept of quality.

There is no satisfactory theoretical basis for making claims that data purporting to show high institutional levels of student retention assures the quality of the educational experience. Such claims are dubious on three counts. Firstly because the reliability of the data is not sufficient, secondly, because the dominant model is theoretically and empirically suspect and thirdly because even if the dominant model were valid, it would provide no coherent pathway between the concept of quality inferred from quality assurance and the data gathered about student retention. Equally, and for the same reasons, there is no support for the proposition that high rates of student departure demonstrate the educational quality of a program or institution. There is no adequate theoretical basis for claiming any relationship between institutional data reporting student retention and statements about educational quality, in the absence of other forms of assessment.

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