

## **Serious thoughts about dropping out in first year: Trends, patterns and implications for higher education**

Dr Kerri-Lee Krause, Centre for the Study of Higher Education, University of Melbourne,  
k.krause@unimelb.edu.au

### **Abstract**

Student attrition has become the focus of significant research activity in Australia over the past decade. To some extent this focus has been driven by national policy imperatives to reduce student attrition, but other drivers include a growing concern about the quality of the student experience in the context of an increasingly marketised and highly competitive higher education sector. This paper reports on data drawn from the national study of the first year experience in Australian universities. It examines the characteristics of first year undergraduates who seriously consider dropping out of university during their first year. Implications for policy and practice are discussed by way of conclusion.

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### **Introduction**

Student attrition has been the focus of higher education research for over 65 years, particularly in the United States. A search of the literature reveals that, as far back as 1937, the US Office of Education commissioned a study of the factors contributing to college student retention and attrition (McNeely, 1937). US researchers have led the way in developing a range of models attempting to chart key factors contributing to student attrition from higher education. Such notables as Tinto (1975, 1993), Bean (1980, 1983) Bean *et al.* (1985), Astin (1977, 1985) and Braxton (2000) are among the more widely recognised scholars in the field.

More recently, the higher education systems of the United Kingdom and Australia have recognised the critical importance of understanding, monitoring and addressing student attrition, particularly in the undergraduate years. To some extent this focus has been driven by national policy imperatives to reduce university student attrition in the respective nations, but other drivers include a recognition of the close link between student equity and retention in higher education. A further driver is the growing concern about the quality of the student experience in the context of an increasingly marketised and highly competitive higher education sector.

The UK Higher Education Funding Council includes student retention as a lynchpin of its strategic plan (2003–08) (HEFCE, 2005a). It financially supports activities designed to support and retain students who are under-represented in and

less well-prepared for higher education (HEFCE, 2005b). Nevertheless, a 2002 analysis of the sector noted a poor focus on student retention in many UK institutions (Gibbs, 2003, p. 30).

In Australia, too, student attrition has received much attention in recent years. The Department of Education Science and Training took the unprecedented step of publishing higher education attrition rates for the period 1994 to 2002 (DEST, 2004). Despite much criticism over the limitations of these data and their dependence on institutionally provided statistics which rely on disparate collection and reporting mechanisms, the report signalled the beginning of a number of initiatives designed to monitor and address student attrition in Australian higher education. For instance, a national DEST-funded study of first year undergraduate student attrition from university was commissioned in 2005.

Importantly, the federal government higher education reforms have also targeted the issue of student attrition and retention. The National Teaching and Learning Performance Fund allocates funding to universities on the basis of institutional performance on three sets of indicators. These are: student satisfaction with teaching, measured by the Course Experience Questionnaire; graduate outcomes, determined by the Graduate Destination Survey; and student success in the first year. The third indicator comprises first year undergraduate attrition statistics and figures on student progress from first to second year. Despite being a contentious set of indicators, this national imperative to pay attention to the student experience in all its complexity has heightened the need for a deeper understanding of the student attrition phenomenon.

An important step towards a more informed theorising of this phenomenon is to clarify terminology. For the purposes of data collection and reporting in the Australian context, DEST defines attrition in terms of the proportion of students in a particular year who neither graduate nor continue studying in an award course at the same institution in the following year. These data are supplied by higher education institutions to DEST (Access Economics, 2005). Broadly, attrition is understood to be the reverse of retention such that those students who successfully progress year by year and ultimately graduate from their award course are considered to have been “retained” in the sector. The Center for the Study of College Student Retention (2005) argues for a more sensitive set of measures of retention, including course retention, program retention, student retention, and distance/extended campus retention.

Jardine (2005, see also Horstmanshof & Zimitat, 2003) goes one step further to distinguish between the terms ‘retention’ and ‘persistence’. These, too, are often used interchangeably in the literature. Yet in terms of agency, an important distinction should be drawn. Retention is most appropriately conceptualised in terms of the actions and responsibilities of institutions. Jardine defines these as the policies, processes and support structures designed by an institution to keep a student enrolled. By contrast persistence appropriately focuses on the agency (Bandura, 2001) of students in the institution. Student persistence refers to the strategies and behaviours students use to continue with their studies regardless of external influences which may draw them away from their goal of completion. This distinction is similar to the one proposed by Yorke and Longden (2004, p.133) who draw the line between the “supply-side” construct of retention and the more student-focussed concept of student success. In arguing for persistence as a critical third force in the current attrition/persistence debate, this paper is conceptually underpinned by the agentic perspective of Bandura’s social cognitive theory. Bandura and Locke (2003, p. 87) argue that self-efficacious individuals operate as

“anticipative, purposive and self-evaluating regulators of their motivation and actions”. It is the contention of this author that those who persist are more likely to be self-regulatory in their learning and coping styles (Frydenberg, 2004). Clarifying the nomenclature, then, provides a powerful basis on which to examine the role of agency, self-regulation and student-institution reciprocity in the retention/attrition/persistence process.

Several instructive models have been proposed in an attempt to depict the multifaceted attrition/retention/persistence phenomenon. Despite criticisms (see for example Braxton, Hirschy, & McClendon, 2004), the Tinto (1993) model of student departure nevertheless provides a useful framework for identifying the factors which potentially contribute to student departure from higher education. The key factors include pre-entry attributes, student intentions, goals and commitments and academic and social experiences. Bean and Metzner (1985) add a further dimension to the research by highlighting the unique experiences of non-traditional students in higher education. This focus on the experience of under-represented students in higher education has, more recently, been highlighted by the work of Forsyth and Furlong (2003, see also Yorke & Thomas, 2003) and Heagney (2004) who examined the attrition of students from low socio-economic backgrounds in Australian higher education.

A number of principles of good practice in promoting student retention have been identified. Thomas and Yorke (2003) identify these as: a supportive and student-friendly institutional climate; an emphasis on student support prior to and during the first undergraduate year; frequent and widespread use of formative and early assessment; provision of opportunities to engage students in the social dimensions of learning activities; and an awareness of and responsiveness to the fact that students’ patterns of engagement in higher education are changing.

The present study addresses the continuing need to deepen our understanding of the variable nature of the student experience across demographic subgroups with a view to promoting persistence in the first year. Importantly, the data also point to several implications for good practice in teaching, supporting and monitoring students. These will be drawn from the findings which follow a brief overview of the national trend studies of the first year experience in Australian universities.

## **The national survey of the first year experience**

### *Background to the trend studies*

In an effort to monitor changes in the first year experience of undergraduate students in Australian universities, a series of three national studies have taken place. These have been funded by the federal government and conducted by the Centre for the Study of Higher Education, University of Melbourne. These studies, conducted in 1994, 1999 and 2004, have provided the opportunity to establish a national database that directly assists in the monitoring and enhancement of the quality of education provided by Australian universities. While the surveys have investigated a range of issues pertaining to student adjustment in the first year, they have all included an item inviting students to indicate whether they have seriously considered discontinuing their studies during the course of their first year.

The 2004 study (Krause et al., 2005) built on the tradition set by the early studies, although the sample of institutions was increased from seven to nine public

universities in Australia to enhance its representativeness at the national level. In line with international research trends, the questionnaire was modified and updated to incorporate new questions on the use of information and communication technologies (ICTs), and to explore more fully the issue of student engagement.

### **Survey methodology**

In 2004 the First Year Experience Questionnaire (FYEQ) was mailed to a 25 per cent random sample of first year commencing undergraduate students, stratified by eleven defined broad fields of education, chosen from each of nine participating public universities in Australia. The project asked institutions to select campus-based students who were first time entrants to higher education enrolled in bachelor, associate degree or undergraduate award programs. Both domestic and international students and both full-time and part-time students were surveyed. Students in non-award and enabling programs were excluded from the sample. One exception to this was the Indigenous student sample. In order to increase the sample size, all Indigenous first year students in the participating universities were surveyed, regardless of program type.

The first mailout of questionnaires took place in mid July 2004. A second mailout to non-respondents occurred one month later in mid August. A small incentive of five \$50 gift vouchers was offered to students who wrote an email address on a separate front cover of the survey for inclusion in a prize draw. The students were assured that the address would remain confidential and would in no way connect them to their responses. A total of 2786 surveys (33 per cent) were returned. Of these, 2344 were useable returns, resulting in an effective response rate of 28 per cent. The response rate across institutions varied from 23 to 31 per cent.

The data analysis and coding procedures used in 2004 were identical to those of the previous two studies. SPSS software was employed to produce descriptive statistics and cross-tabulations. Independent t-tests were used to determine significance levels of relationships between nominated variables. Significance levels are reported at  $p < 0.05$ .

### **Research findings**

To address the continuing concern about the number of first year students who discontinue university enrolment either during or at the end of first year, the FYEQ included an item on whether students had thought seriously about discontinuing their study at any stage during their first year of enrolment. It should be noted that respondents in all three of the first year experience studies (1994, 1999 and 2004) were enrolled at the time of the survey, thus the question was framed in terms of serious intentions regarding future enrolment.

In 1994, 35 per cent of respondents admitted to thinking seriously of dropping out. This figure fell to 33 per cent in 1999 and 28 per cent in 2004. This is a statistically significant decline over ten years. Nevertheless, the fact remains that more than one in four first year students in Australian universities seriously consider dropping out in their initial year. Table 1 presents characteristics of students most likely to admit to considering dropping out of study (potential dropouts), compared to those least likely to be thinking in this way (persisters). This study makes no attempt to draw causal links between the factors identified in Table 1. Rather, it acknowledges a complex reciprocity between and among the variables.

### *Demographic differences*

A comparison of responses from the two groups reveals a number of significant differences ( $p < 0.05$ ) between them. Table 1 summarises these group differences thematically. Students enrolled in combined degree programs are less likely to consider leaving university than their peers enrolled in single degree programs. Similarly, proportionately more students from low socio-economic (SES) backgrounds (31 per cent) consider dropping out compared to their more economically advantaged peers (29 per cent of high SES). While this is not a statistically significant difference it is worthy of further investigation. It should be interpreted in conjunction with the fact that potential dropouts are also those who are most likely to admit that money worries make it difficult to concentrate on study. They are also most likely to be in paid employment for the purposes of meeting basic needs or paying off current loans or debts.

### *Finances and resources*

Students who commit to their studies financially by paying the higher education contribution scheme (HECS) fees at the start of their first year tend to be more committed to staying. Similarly, those dependent on family as their main income source at university are more likely to plan to stay on at university. By contrast, those reliant on government support or part-time employment are more likely to consider dropping out.

Access to resources plays a role in students' future plans. Typically, those students who are satisfied with their access to computers at home and have a quiet place to study tend to be those who are least likely to contemplate dropping out of university.

### *Sense of purpose*

Students' commitment to study and their sense of purpose emerge as a key theme in distinguishing between potential dropouts and persisters. As shown in Table 1, students who feel that being enrolled at university is just marking time while they decide on their future plans are more likely to consider dropping out than those who are clear about their reasons for enrolling at university and are purpose-driven. Changing courses or institutions early in the first year and withdrawing from one or more subjects are indicators of potential withdrawal from the university. Similarly, spending less time on campus and in class, and more time in paid work tend to be associated with serious thoughts about discontinuing study. Students who received a place in the course of their first preference and who find themselves studying in a field that interests them are more likely to be settled and planning to stay.

### *Achievement and self-regulation*

Low achievement and unrealistic expectations in the first year are potential predictors of student plans to withdraw from university study. Similar thoughts about dropping out of university are evident among those students who fail to make a smooth adjustment to university, have difficulty understanding course material, feel overwhelmed by all they have to do at university, and express discomfort in group discussion contexts, such as small group tutorials.

Self-regulatory behaviours consistent with independent learning emerge as strong predictors of first year persistence. For instance, persisters tend to be those who regularly seek advice and help from staff, ask questions in class and have a strong self-belief that they are strategic about managing their workload. By contrast, potential dropouts are more likely to be those who skip classes and regularly come to class unprepared. Commitment to study features as a distinguishing feature element in these data. Students who spend less than the average time on study (i.e., less than 11 hours per week, see Krause et al., 2005, p.34) are more likely to consider dropping out than their peers who admit to studying more than average, and on weekends when needed. The role of web-based materials in students' university experience is a phenomenon worth noting. Students who agree that "you can miss a lot of classes in first year because the notes are on the web" are more likely to have considered dropping out of study compared to those who say they regularly use web-based resources and information as part of their study routine. The difference in the uses to which these students put web-based resources appears to be connected to their motivation and purpose for web use.

Not surprisingly, students who have difficulty getting motivated to study and who find the course workload heavy and difficult to keep up with are more likely to seriously consider withdrawing compared to those who are more confident about taking control of their learning and involvement with the learning community.

#### *The role of peers*

Peers in the learning community play a critical role in supporting first year students' adjustment to university (Krause, McInnis, & Welle, 2003). Table 1 demonstrates that those who tend to keep to themselves at university are more likely to consider dropping out than those who work with other students on assignments and make contact with their peers out of class—whether online or face-to-face. Making one or two friends at university is another powerful predictor of students' intentions to stay.

#### *Time management*

How effectively students manage their time and commitments at university plays a significant role in facilitating a smooth adjustment and a positive experience in the first year. The data from the national study (Krause et al., 2005) indicate that students who commit to higher than average (that is, more than 12.5 hours) employment per week tend to be more likely to consider dropping out. This factor does not operate in isolation however. In the study, paid work commitments were accompanied by students worrying about money and feeling that their work interfered severely with their academic progress at university. This, along with feeling overwhelmed with all that they have to do, paints a picture of a compendium of indicators which together have a deleterious effect on students' adjustment and commitment to stay on at university. Students who work to meet basic needs and pay off current debts are more likely to consider dropping out than those who work for other reasons, such as paying for 'extras' and being independent of their family.

### *Perceptions of teaching*

Typically, students who have positive perceptions of teaching are most likely to express intentions to stay at university. Table 1 lists a series of items pertaining to first year students' views of teaching staff and the quality of teaching and feedback they receive. On all these items, students considering dropping out score significantly lower mean scores than their more optimistic and satisfied counterparts. By contrast, those seriously considering dropping out are significantly more likely to admit to having difficulty adjusting to the university style of teaching.

### *Belonging in the learning community*

Developing a sense of belonging and involvement in the life of the university is a critical feature of the successful first year experience (Krause, 2005). Students who give serious consideration to leaving university are more likely to say they have little interest in extracurricular activities at the university; whereas their more satisfied peers are more likely to be actively involved in extra-curricular activities. Further attitudes and behaviours associated with persisters include believing that they are part of a group of students who are positively committed to learning, and feeling a sense of belonging within the university community. Persisters are more likely to enjoy being on their university campus and to have benefited from the orientation programs provided by their institution. Importantly, they perceive that they are known by at least one of their teachers as they reach the latter half of their first year.

### *Student satisfaction*

Overall satisfaction also emerges as a distinguishing characteristic of persisters in the first year. They are satisfied with their course and university experience overall. They say they received helpful advice early in their association with the institution when they chose their courses. They are also satisfied with the subject choices they made, demonstrating a high sense of self-efficacy (Bandura, 1997). They enjoy being a university student and receive satisfaction from studying. By contrast, their less satisfied peers express the view that university has not lived up to their expectations and this may play a role in their thoughts about withdrawing.

**Table 1: Differences between persisters and potential dropouts in the first undergraduate year<sup>1</sup>**

	<b>Characteristics of potential dropouts</b>	<b>Characteristics of persisters</b>
<b>Enrolment and student characteristics</b>	<ul style="list-style-type: none"> <li>• Bachelors degree enrollees</li> <li>• Science, Creative Arts broad field of education</li> <li>• Proportionately more low SES than high SES (31% compared to 29%)*</li> </ul>	<ul style="list-style-type: none"> <li>• Combined degree enrollees</li> <li>• Management and commerce broad field of education</li> <li>• Full fee-paying international students</li> </ul>
<b>Fee arrangements</b>	<ul style="list-style-type: none"> <li>• Deferred fee payment</li> <li>• Main or only source of income: Youth allowance/AusStudy<sup>2</sup>, part-time work</li> </ul>	<ul style="list-style-type: none"> <li>• Paid fees upfront</li> <li>• Main or only source of income: family</li> </ul>
<b>Access to resources</b>		<ul style="list-style-type: none"> <li>• Satisfactory access to computers at home</li> <li>• Have a quiet place to study</li> </ul>
<b>Commitment and sense of purpose</b>	<ul style="list-style-type: none"> <li>• University is just marking time while I decide on my future</li> <li>• Changed courses or changed institution after enrolment</li> <li>• Withdrew from one or more subjects in the first semester</li> <li>• Less time on campus (4.16 days compared to 4.2 days per week)*</li> <li>• Fewer course contact hours (15.8 hours per week compared to 16.1)*</li> <li>• More hours in paid work (14 hours per week compared to 13.3)*</li> </ul>	<ul style="list-style-type: none"> <li>• Studying in a field of interest</li> <li>• Received first course preference</li> <li>• Interested in developing talents</li> <li>• At university to improve job prospects</li> <li>• Clear about the reason I came</li> <li>• I know the type of occupation I want</li> </ul>
<b>Achievement</b>	<ul style="list-style-type: none"> <li>• Low achievers: 60% and below</li> <li>• University marks lower than expected</li> </ul>	<ul style="list-style-type: none"> <li>• High achievers: 70% and above</li> <li>• Marks same as expected</li> </ul>
<b>Adjustment to university</b>	<ul style="list-style-type: none"> <li>• Have difficulty comprehending material</li> <li>• Feel uncomfortable in group discussions</li> <li>• Feel overwhelmed by all I have to do</li> </ul>	
<b>Self-regulatory behaviours</b>	<ul style="list-style-type: none"> <li>• Find it difficult to get motivated</li> <li>• Skip classes</li> <li>• Come to class regularly without having completed readings</li> <li>• Spend less time on study than the average</li> <li>• Course workload too heavy</li> <li>• Find it hard to keep up with the volume of work</li> <li>• You can miss a lot of classes because the notes are on the web</li> </ul>	<ul style="list-style-type: none"> <li>• Regularly seek advice and assistance of staff</li> <li>• Am strategic about managing my workload</li> <li>• Study on weekends</li> <li>• Ask questions in class</li> <li>• Use web-based resources and information</li> </ul>

[See NOTES following table]

**Table 1 (Continued) Differences between persisters and potential dropouts  
in the first undergraduate year<sup>1</sup>**

	<b>Characteristics of potential dropouts</b>	<b>Characteristics of persisters</b>
<b>Peer connectedness</b>	<ul style="list-style-type: none"> <li>• Keep to myself at university</li> </ul>	<ul style="list-style-type: none"> <li>• Work with other students in class on projects</li> <li>• Get together with other students</li> <li>• Email friends in my course</li> <li>• Have made one or two close friends at uni</li> </ul>
<b>Managing commitments</b>	<ul style="list-style-type: none"> <li>• Money worries make it difficult to study</li> <li>• Working to meet basic needs and pay off current loans or debts</li> <li>• More hours in paid work on average</li> <li>• Paid work interferes severely with my progress</li> </ul>	
<b>Perceptions of teaching</b>	<ul style="list-style-type: none"> <li>• Difficulty adjusting to university style of teaching</li> </ul>	<ul style="list-style-type: none"> <li>• Receive prompt feedback from my teachers on how I am going</li> <li>• Most academic staff are approachable</li> <li>• Staff usually available to discuss my work</li> <li>• Academic staff take an interest in my progress</li> <li>• Teaching staff good at explaining things</li> <li>• Staff made expectations of students clear</li> <li>• Teaching staff usually give helpful feedback</li> <li>• Staff try hard to make the subjects interesting</li> <li>• Staff try hard to understand the difficulties students might be having</li> <li>• Staff are enthusiastic about the subjects they teach</li> <li>• Quality of teaching in my course is generally good</li> </ul>
<b>Sense of belonging and involvement</b>	<ul style="list-style-type: none"> <li>• Not interested in extracurricular activities</li> </ul>	<ul style="list-style-type: none"> <li>• Feel part of a group of students committed to learning</li> <li>• Orientation programs helped me feel like I belong</li> <li>• Really like being on my university campus</li> <li>• Actively involved in extra-curricular activities at university</li> <li>• Feel I belong to the university community</li> <li>• There is a positive attitude to learning among students</li> <li>• One of my teachers knows my name</li> </ul>

[See NOTES following table]

**Table 1 (continued) Differences between persisters and potential dropouts in the first undergraduate year<sup>1</sup>**

	<b>Characteristics of potential dropouts</b>	<b>Characteristics of persisters</b>
<b>Satisfaction with the university experience</b>	<ul style="list-style-type: none"> <li>• University has not lived up to my expectations</li> </ul>	<ul style="list-style-type: none"> <li>• Get satisfaction from studying</li> <li>• Enjoy the intellectual challenge of my study</li> <li>• Lectures stimulate my interest in the subject</li> <li>• Orientation programs got me off to a good start</li> <li>• Received helpful advice when choosing subjects</li> <li>• Satisfied with range of subjects to choose from</li> <li>• Satisfied with subject choices I made this year</li> <li>• Really like being a university student</li> <li>• Find course stimulating</li> <li>• Overall I am really enjoying my course</li> <li>• Overall I am very satisfied with my university experience so far</li> </ul>

**NOTES:**

- 1 These group differences are based on t-tests of significance at  $p < 0.05$  for each item, comparing responses for those seriously considering dropping out with those not considering this option among the first year sample, 2004.
  - 2 AusStudy/Youth Allowance: means tested funding available from the Australian government to support full-time students in post-secondary education.
- \* Indicates non-significant group difference—all other differences are significant as indicated in 1 above.

These findings have a number of significant implications for practitioners, policy makers and researchers in higher education. This forms the focus of the following section.

### **Discussion and implications**

In a massified system such as that characterising the Australian higher education sector, it is a truism worth reiterating that the diverse student cohort in the first undergraduate year, experiences the university in vastly different ways. To understand student attrition or its positive counterpart, persistence, is to understand the diversity of ways in which students engage with their educational experience in all its dimensions. This paper reports on one element of the attrition/persistence jigsaw puzzle by examining what we know about students who seriously consider dropping out of university in the first year, as compared with those who have adjusted more successfully.

These findings have significant implications for educators, student affairs staff, policy makers and researchers charged with the responsibility of monitoring, supporting and educating undergraduates. The work of such authors and Yorke and Longden (2004, see chapter 10) and Gibbs (2003) articulates a wide range of strategies for promoting student success and enhancing student retention and

persistence. It is beyond the scope of this paper to elaborate in this regard, accept for commending these sources as useful further reading.

The purpose here is to discuss the data within the framework of five principles for good practice in supporting the student-institution relationship and thereby contributing to the likelihood of persistence rather than attrition. The first principle pertains to the need for different parts of the institution to work together single-mindedly with the aim of producing a seamless educational experience for students. This necessitates a collaborative, whole-of-institution approach to education, involving academics, student support services and administrative functions of the university. It also means a closer nexus between university marketing activities and the work of academics and student affairs staff to ensure that student expectations are realistically shaped before they arrive on campus and throughout the critical first year of study. Students do not distinguish between the structural elements of the organisation when they need information, guidance or assistance, whether in or out of the classroom. Every effort should be made to support a more holistic experience for students at all stages of their experience, but particularly during the transition points to and through the first undergraduate year.

A second implication of these data is that, cognisant of the fact that student persistence is closely related to a sense of purpose, motivation and self-regulatory behaviours and attitudes, strategies should be put in place to empower students in this regard. If students find themselves in courses which are not their first preference, targeted course and careers advice may be useful to help them see the possibilities offered by the courses in which they are enrolled. If students see a purpose in what they are doing and have positive efficacy beliefs, there is an increased likelihood that they will be motivated, goal-oriented and self-regulated learners (Bandura & Locke, 2003). This may involve explicit acknowledgement that some students in a particular course may not be there as a first choice. In itself, this may be a healthy first step in helping students to see that they are not alone in feeling despondent or like a 'second-class university citizen'. Academics may work with careers advisers early in the course experience to provide careers advice and discuss student options for further study. Students also need to be equipped with strategies for taking responsibility for their learning in a scaffolded and supportive environment. In the case of students for whom the university culture is alien (Forsyth & Furlong, 2003), efforts may be needed to help shape realistic expectations whilst maintaining standards and quality in the student experience. One of the most important principles here is a process of reciprocal expectation building. This can only be done when institutions make it a priority to monitor student expectations and communicate their own in a way which is supportive and responsive.

A third implication related to the need for institutional responsiveness is the importance of establishing institution-wide mechanisms for monitoring the student experience. Furthermore, there is a need to communicate these processes to students and include them in the feedback loop. These data should be used to inform practice in the classroom, in student support initiatives and across the campus—whether it be real or virtual.

Fourth is the need to connect students with their peers in meaningful ways both in and out of the classroom. The literature abounds with research supporting the need for institutions to develop programs and practices which facilitate student interaction with peers. Peer support programs, groupwork activities, and group assignments are some of the widely accepted practices in this regard. While many good practices exist, one notable exception is the failure to build sustainable online

learning communities across the sector (Krause, 2005) in an age of increasing reliance on information and communication technologies in higher education. There may be good practices in pockets of the sector, but there is much to be done in building virtual communities to support student learning in university learning communities.

A fifth and final principle is that these data provide a mandate for institutions to see the transition to and through university as a holistic process which begins well before enrolment, extends beyond graduation and includes so much more than what happens in the classroom. This study of the difference between potential first year dropouts and persisters highlights the fact that if students are not equipped with strategies for self-managing their time commitments and study behaviours, they are more likely to seriously consider dropping out of university. These strategies should be developed before students enrol and should be honed during the early weeks of the first year, and further developed over time. This involves a three-way partnership between students, academics and student support staff. Such a partnership is most effectively achieved when students have a relationship with the institution prior to enrolment. It may mean institutions taking an active role in collaborating with schools and communities to reach potential students and raise their awareness of what it is to succeed at university before they begin. Once enrolled, there should be ongoing and developmentally appropriate support in place to give students early and continuous feedback on how they are progressing and what steps to take when encountering difficulties. This Vygotskian scaffolded approach should be pedagogically sound with a view to maintaining rigour in the curriculum and the broader university experience, while at the same time progressively removing supports so that students become self-managed learners.

Above all, this study alerts practitioners and administrators to the significance of staying connected with each other and with students in the university learning environment. The fate of those seriously considering dropping out of university in this study will never be known. One wonders whether, if the institutions to which these potential dropouts belonged had known what they were thinking and feeling and why, things might have been done any differently to support them. The challenge remains that if institutions are serious about attrition and aim to turn it into persistence, they must focus on building partnerships among all stakeholders in the learning enterprise, including students, academics, administrators and support staff.

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