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ISSUES IN ATTRITION AND RETENTION IN AN AUSTRALIAN UNIVERSITY

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ABSTRACT

Incentives and disincentives for undergraduate students to complete a University Degree can be a range of individual, interpersonal or organisational factors. Three groups of factors were examined among continuing and discontinuing students and compared with the results of an earlier study. The paper discusses similarities and differences between the findings of the two studies and identifies strategies through which Universities can reduce attrition. It is hoped that the methodology used in the study can be of value to other Universities seeking to examine student attrition and retention.

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INTRODUCTION

Changes in the Australian Tertiary Education System of the past generation has raised expectations of students and their families so that now all Secondary School leavers expect to participate in tertiary education. However, over the last few years changes in Government Policy have led to a reduction in Funding for Universities. The consequences for students are increased class sizes, fewer tutorials and larger tutorial groups and widely held concerns about maintenance of academic standards and the quality within University education.

Studies in the US (Curtis and Curtis, 1966) and Australia (Sharma and Burgess, 1995) have identified that 1st Year Undergraduate Students are at risk of discontinuing their studies due to the difficulties in adjusting to University Education and the emotional stress associated with the Education Transition. Australians have traditionally placed an emphasis on providing support services for Undergraduate Students with most service areas providing services specifically target to 1st year student. For example, at this University targetted services include workshops, study programs, orientation activities and individual physiological and educational services. One Australian study concluded that student attrition was principally influenced by prior performance, course commitment and study motivation (Abbott–Chapman, 1992). An earlier study (West 1986) found that the principal reasons for withdrawal from studies were related to course of study selected, characteristic of the Institution and the academic preparedness of students.

A smaller study of an Australian University (Sharma and Burgess, 1995) found that individual circumstances of the students' life also influenced their retention. The finding was consistent with a US study of College students that found individual circumstances where the principal reasons for withdrawal (Rickinson and Rutherford, 1995). Little is known about the factors that facilitates students staying at University, but it is likely that the reasons are the opposite of those leading to attrition; for example, good social adjustment, commitment to study and academic success.

Incentives and disincentives for undergraduate students to complete a University Degree can be a range of individual, interpersonal or organisational factors. These three factors were examined among continuing and discontinuing students and compared with the results of an earlier study. The study also discusses similarities and differences between the findings of the two studies and discusses how the Higher Educational Planners on the one hand and academics on the other can play an important role in managing student attrition.

RESEARCH METHODOLOGY

There were two parts to the study. The first consisted of a quantitative analysis of institutional data of student program level attrition and the second consisted of a quantitative and qualitative survey comparing students who had withdrawn from the University with those who had continued through second and subsequent years.

ASSESSING STUDENT ATTRITION

For the first part of the study, program level attrition was measured through four steps. The 1997 student attrition rate was assessed through a comparison of the DETYA files for 1997 and 1998. Students who appeared in the 1997 file and were enrolled in the same or related program in 1998 were considered as continuing students. Of the residual students, a computer-based check indicated whether the student had graduated or taken official leave of absence. The students remaining in the database were considered students who had withdrawn from the University through program level attrition.

The student attrition rates were measured in 1997 by taking the ratio of the number of students dropping out from the program between the last day of March 1997 and the last day of March 1998, expressed as a percentage of the number of students enrolled in the program as at the last day of March 1997. The last day of March was used in this measurement since it is the reference date for the collection of all higher education statistics in Australia.

Student attrition rates were measured and tabulated against the academic organisational unit in which the student was enrolled, commencing students, student demographics of gender, age, basis of admission, and student progress variables such as mode of attendance and stage of the program.

COMPARING CONTINUING AND DISCONTINUING STUDENTS

A survey instrument was used to collect detailed quantitative and qualitative self-report information about students who were continuing students and those that had left the University.

Discontinuing students were identified through the previously described methodology of the project and were sent a copy of the survey instrument. The response rate from discontinuing students was 26%, with 88 completed useable returns. The low response rate occurred due to problems with student mobility and difficulties with the accuracy of student record databases.

Continuing students were approached on campus by one of the researchers and invited to participate in the study. Of the 130 students who were identified as second year or higher levels, 92 students agreed to participate in the study.

Overall, a total of 181 students participated in this part of the study.

The survey questionnaire consisted of 10 sections. The 10 sections included background demographics, student status, home circumstances, factors from the organisational context thought to influence continuation or attrition, factors from the interpersonal environment of the University thought to influence continuation or attrition, factors from the individual circumstances that may affect tertiary study continuance, and some items related to coping style.

LITERATURE REVIEW

Tinto (1975, 1982, 1987) used Spady's work (1970, 1971) and Durkheim theory of suicide (1951) to develop a theory explaining the process that induces students to leave colleges and university before graduating. This theory articulates that personal characteristics and demographic and related characteristics (gender socio-economical status, ethnicity, etc.) produce varying level of initial commitments to educational goals and to specific institutions. It argues that once a student enrolls in a particular higher education institution, these initial commitments interact with the economic and social components of the University, resulting in different levels of academic and social integration. According to Tinto (1987), academic integration stems not only from the student academic performance but also from the interaction with staff, while social integration reflects student participation in and satisfaction with extra curricular activities and peer group relations. The theory argues that, all other factors being equal, a match between an individual student characteristics and the institutions academic and social components determine the student's commitment to university completion and the subjects commitment to their university. These two final commitments, together with the levels of academic and social integration, have a direct effect on decisions to persist or withdraw from the University.

Tinto (1993) argued that a distinction could be aptly drawn between a student's decision to withdraw from a particular course or university compared to a student's decision to withdraw from all higher education or temporarily withdraw from higher education. According to Spalding (1998) each of these decisions would be based on a different motivation and differing outcomes. The present study focused on the first of this withdrawal decisions only – the decision to withdraw from the University.

Mallette and Cabrera's (1991) work supports Tinto's proposition of differentiating between different types of withdrawal behaviour. This research found that whilst institutional commitment, academic performance, finance attitudes and students perception of academic staff concern for student development and teaching discriminated between the persisters and drop outs, only final institutional commitment and final goal commitment discriminated between the persisters and transfers.

As indicated above, student withdrawal from the institutions of higher education has been a subject of significant research over many years in the USA and Canada. Rickinson and Rutherford (1995) point out that British Universities have traditionally enjoyed relatively higher under-graduate retention and completion rates. They have identified two main factors, which influence student withdrawal/retention rates in a British University, namely the degree to which students were academically and emotionally prepared for transition to University and availability of appropriate academic and personal support at the transition stage. Rickinson and Rutherford (1995) also identified some important implications of their findings in terms of improving retention rates, namely, the utilisation of a personal tutoring system, supported by an effective central counselling service and more attention being given to the preparation for higher education stage of matriculants.

Spalding (1998) has argued that there is an impetus to repeat quantitative studies of attrition frequently if recent past and changing trends are to be taken into account and integrated into educational planning. The present study is one means to address the need for recent quantitative data as the last student attrition study was conducted at this University in 1995 (Sharma & Burgess, 1995).

The ten most common findings in relation to attrition have been summarised by Miller et al. (1997). The top ten reasons cited were:

- Withdrawal is usually multicausal; and students seldomly react to just one case (though they may prefer to explain it as unicausal when subjected to a research process, especially one that encourages a single "tick the box" response).
- Withdrawal often follows specific kinds of interactions between individual and institution, eg, where a student feels that institution has been indifferent or unsupportive.
- Intrusive proactive advising is critical to reducing attrition. Wilson et al. (1997) shows that counselling students results in a retention advantage. This finding is supported by similar studies by Norman et al. (1990) and Metzner (1989).
- An important factor influencing retention rates is the quality of student/academic staff interactions.
- Students who integrate into the university tend to stay, while those who are not integrated tend to withdraw (Tinto, 1993).
- The more prestigious the institution (higher entry cut-offs, sandstone history, etc.) the lower the attrition rate.
- Availability of social interaction opportunities on campus reduces attrition.
- Students with fixed, more certain intentions and long term goals (career certainty/maturity) are less likely to withdraw (Tinto, 1993).
- Students, who want to be active in the learning process, rather than passive, are less likely to withdraw.

- External factors that exist at the time of entry contribute to withdrawal (eg, finances and distance) but are more likely to be considered in the decision to attend than in the decision to withdraw.

Given that there is sufficient reason to agree that Tinto (1993) is accurate in his understanding of student attrition, the more committed a student is at a personal level to their course choice, coupled with higher levels of social integration and emotional intelligence, the more likely they are to remain at university and complete their course. If a university is able to modify policies, procedures, and practices to reduce withdrawal, then an understanding of both withdrawing and completing students is needed (Splading, 1998).

Individual coping of students is also an influence on their ability to cope with the pressures of university education (Compas, Malcarne, & Fondacaro, 1988).

Higher education and social integration places demands upon students that may be reflected in their emotional responses to situations. The ability to reflectively monitor emotions in oneself and others is considered an important part of coping and will be reflected in the level of social integration a student can achieve. Self-managing mood and emotion have been found to be related to the model of and research on emotional intelligence by Mayer and Stevens (1994).

ATTRITION RATES IN THE CASE STUDYING UNIVERSITY

It is noted that student attrition can be defined at various levels within the organisation. For instance, a student who drops out from institution A and moves to institution B could be considered as attrition at institution A, however, at the systems level the student would be regarded as continuing the studies. The focus of this study is program level attrition, as previously stated.

The attrition rate was determined for each academic organisational unit with this study focussing on three of them – the unit with the lowest attrition rate (Design), unit with medium attrition rate (Engineering) and one with the highest attrition rate (Humanities and Social Sciences).

The overall attrition rate for Design was 9.9% whilst that for Engineering was 15.9% and for Humanities and Social Sciences was 30.9%. It is noted that the attrition rate for commencing Design students (12.8%) was greater than that for all Design students. A similar picture emerges with the Engineering discipline where commencing students had an attrition rate of 20.2%. However, in respect of Humanities and Social Sciences, the commencing student's attrition rate (30.7%) was more or less the same as that for all students from this discipline.

Table 1 below specifies the total and commencing attrition rates for the three Academic Organisational Units. It also summarises the attrition rate for these three Academic Organisational Units by gender, age groupings, attendance mode, basis of admission and stage of program. Temporal comparisons are also given for the attrition rates in respect of 1996/1997 and 1997/1998.

The following conclusions can be drawn from these data:

- Without exception, the female attrition rate appears to be lower than that of males. This finding corresponds with the study undertaken by Dobson and Sharma (1994) who found that women invariably outperformed men in terms of University studies.
- Table 1 also examines student attrition rates for 4 major age groups including those below 20 years, 20 to 24 age group, 25 to 29 age group and students who were over 30 years of age. With the exception of Humanities and Social Sciences the result show that the very young age group (less than 20 years) had sustained lower students attrition rates than the oldest age group (30 plus). Further, it was found that the middle age group of 20 to 29 years, on the whole,

tend to sustain lower attrition rate than either the very young (less than 20 years) or the older age group (30 plus).

- c) The study also examined attrition rates by attendance mode and found that full time student attrition rates are lower than that applicable to part time students. This is consistent with the findings of Urban et.al (1999) which indicates that full-time course completion rate (+67%) was significantly greater than corresponding part-time rate (+47%) for the 1992 commencing Australian student cohort; clearly the lower the completion rate the higher the expected attrition rate.
- d) The study also compared the student attrition rate by basis of admission. Attrition rate of TAFE articulants tended to be lower than that applicable to school leavers with the exception of Engineering and Science where TAFE articulants experienced a higher attrition rate than school leavers. In general students with prior higher education studies experienced a greater attrition rate than school leavers. It is our opinion that this largely reflects the larger proportion of students with prior high education studies who enter postgraduate programs and undertake studies on a part-time basis.
- e) Table 1 below also compares the student attrition rate by stage of program and it is noted that irrespective of the discipline, first year attrition rates are always higher than later years.
- f) The general trend was for attrition rates to increase between 1996/1997 and 1997/1998 with Engineering being a notable exception.

TABLE 1**1997 Student Attrition Rate by Selected Academic Organisational Units**

Variable	Attrition Rate (%)		
	Design	Engineering	Humanities and Social Science
All Students	9.9%	15.9%	30.9%
Commencing Students	12.8%	20.2%	30.7%
Females	7.5%	15.6%	29.3%
Males	12.2%	15.9%	34.7%
Less than 20 Years of Age	13.4%	16.9%	32.4%
Between 20 and 24 Years	10.7%	16.1%	30.2%
Between 25 and 29 Years	9.5%	12.3%	31.2%
30 or Over	15.0%	29.7%	31.4%
Full-time Students	9.1%	13.8%	21.8%
Part-time Students	15.1%	19.9%	37.6%
Students Entering with Prior Higher Education Studies	16.3%	24.1%	24.2%
TAFE	3.8%	28.6%	24.7%
School Leavers	13.8%	16.0%	39.0%
First Year Students	14.4%	22.6%	34.5%
Later Year Students	6.5%	10.3%	21.1%
1996/1997 Attrition Rate	7.7%	22.1%	21.7%
1997/1998 Attrition Rate	9.9%	15.9%	30.9%

SURVEY OF STUDENTS

Age. Discontinuing students were commonly aged between 20-25 years (45%) compared with continuing students, who were between 16-25 years (66%).

Cultural Background. Students in both discontinuing and continuing student charts were mostly Australian citizens or had been in Australia since 1991. Hence, it is likely that difficulties associated with educational experiences at the University were less likely to have been caused by acculturation difficulties.

First Attempt at Higher Education. For the continuing students, over half (55%) were attempting tertiary study for the first time. The numbers of attempts to complete higher education differed between the discontinuing and continuing students. Discontinuing students were equally divided between first (45%) and subsequent (49%) attempts at higher education.

Family Responsibilities. The majority of discontinuing students (73%) and continuing students (89%) had no children. Of those discontinuing students who did have children, two children was most common (13%). Surprisingly, the continuing students who had children were more likely to have one child (3%), two children (2%) or three children (1%).

Highest Previous Level of Education. In both groups, it was common for Year 12 to be the highest level of previous education. Amongst the discontinuing students, 42% had completed Year 12/HSC, 10% had completed an undergraduate course, and 14% had completed a postgraduate diploma. A similar pattern was found with the continuing students.

Development of a Career Goal. One difference between the discontinuing and continuing students was in the development of a career goal prior to course commencement. The continuing students were clearer about goal identification than the discontinuing students. Of the discontinuing students, 62% did not have a career goal, whereas 53% of the continuing students had decided on a definite goal.

University Preference. For both continuing and discontinuing students, the case study University was their university of first preference. Continuing students responding to the survey were more likely to be full time (72%) than part time (28%). Discontinuing students were also more likely to be full time (51%), but included part time (15%) and external students (17%).

Organisational Environment. The survey questioned students about aspects of the facilities and services within the University, but there were no differences between student groups in this respect.

Interpersonal Environment. Although students had differing experiences of interpersonal support whilst at University, it seemed that interpersonal reasons were not in themselves the reasons they continued or withdrew from the University.

Individual Environment. Both discontinuing and continuing students admitted to experiencing stress associated with academic coping but there was not a causal relationship between this factor and withdrawal. Individual factors accounted for the greatest differences between the two groups. The items that distinguished the two groups in relation to the individual environment were associated with handling pressures of University life, competing demands (including family and other responsibilities), and some financial pressures.

Discontinuing Student Profile

More older students (40-44 years).

More likely to have dependent children.

Had the majority or greater amounts of financial responsibility.

More likely to be married.

Equally with continuing students for the case study university to be University of choice.

More likely to be part-time or external students.

Continuing Student Profile

More first timers at tertiary study.

More likely to be school leavers.

More likely to be postgraduate.

More likely to have a definite career goal.

Less likely to be married, more likely to be living with someone or single.

DISCUSSION

The differential attrition rates for students from schools within the University suggest that student groups may have differing levels of adjustment to University life. Courses with higher cut-off scores, more competitive entry, and high levels of academic staff involvement through smaller group teaching and practical laboratories and workshops have lower attrition rates compared with first year students studying in other schools. It may also be that students in the courses of design or engineering are involved in professional preparation courses that required them to have a specific career goal and career plan prior to applying for the course. The socialisation aspects of students studying in schools such as Design and Engineering may also differ from those in more general courses, such as Humanities and Social Sciences. Students in these specific professional courses tend to study with the same group of students all through their course can be located in a specific area of the University. Design and Engineering students therefore may more easily develop a strong feeling of identity, familiarity with their part of the University campus and social links with peers and academic staff.

It is not surprising that women students were more likely to retain their place than comparative cohorts of male students were. At both secondary and tertiary levels women have been found to commit to academic study and achieve excellence.

Older students were more likely to have had an interrupted educational background, having attempted tertiary study on previous occasions but not completed their preferred qualification. Older students (30 plus) were more likely to have changed career goals, have competing demands from work or home and family commitments and to be more challenged by the requirements to use technology to facilitate their learning.

The differences found between TAFE and other students in attrition rates with TAFE students demonstrating lower attrition rates may be explained by the fact that this is an inter-sectoral university with a higher degree of articulation between the TAFE and higher education components of the university. So many of these TAFE articulators would have already been socially integrated into the university thus smoothing their transition to higher education. The study also found that, as in many other areas, success leads to greater success in higher education studies. It may be that students who have previous success in higher education academic study have found a means through which to quickly adjust to the demands of study and the social environment, and to find assistance when needed through the University organisation.

First year adjustment is more difficult for students as the learning environment, location, and social relationships all require maximum adjustment. If a student can experience success both academically and socially in the first year of study, it is more likely they will complete subsequent years of study.

CONCLUSION AND RECOMMENDATIONS

Given the differences found between continuing and discontinuing students in the second part of the study, specific initiatives and activities may assist in the retaining of undergraduate students. The results of the present study indicate the importance of matching initiatives to specific school groups.

The aim of the present research study was to consider similarities and differences between discontinuing and continuing students at the University. It was expected that the understanding gained could lead to changes in policy, procedures, or practices that may enhance the students' experience and mitigate against attrition.

It is recommended that there be:

Specific mentoring schemes for on line and part-time on-line students. Mentoring programs should provide both career and psychosocial support consistent with the model of mentoring developed by Kram (1983).

Specific social networking functions for part-time and on-line students available through the Schools within the Division. Students may need support to socialise with academic staff and peers, and such support could be structured around professionally relevant activities.

Preparatory courses for mature aged students returning to study. Preparatory courses were popular in the 1970s to encourage older students to seek assistance with tertiary study. It may be that brief courses before the academic semester begins may assist students. Ideally, such programs would be considered of equal value and status as academic programs and be built into the academic schedule, rather than being seen as an adjunct course.

Specific vocational guidance/placement services for mature aged part-time students seeking career redirection.

Individual monitoring schemes and advising, particularly for on-line students, perhaps with a designated academic mentor or student services worker. The goal would be to the early identification and intervention with at risk students to prevent attrition.

Financial support readily available for mature aged/second career students perhaps brokered by the University with a financial institution.

Specific exploration or timetabling and information access arrangements that may adversely impact mature aged and part-time students.

A student development program could be formally built into student contact hours to allow more direct preventative care to be taken of students. Student development programs as part of a TAFE curriculum have been trialed at this University/TAFE Division and found to be well regarded by both student groups and teaching staff (Kalaboukas, 1998).

Practical assistance, ie. casual child minding as distinct from child care or, alternatively, after hours supervision of children, may facilitate mature aged students returning to study.

A formal network of University and student services staff to act as exit interviews to gain quantitative and qualitative data in an ongoing way about student retention issues. Such staff could also act as valuable sources of advice to students about alternative pathways and provide early detection of systemic problems in the organisation.

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