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**STUDENT RETENTION
EVERYBODY'S BUSINESS**

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ABSTRACT

This paper will examine the history and various approaches to student retention and attrition in tertiary education, drawing mainly on experiences in the United States where research is highly specialised and advanced. What these studies have demonstrated is that retention and its effective management has been a problematical area of strategic planning in tertiary education because it is particularly complex in character, and elusive to define. The lessons learned from overseas studies are particularly useful when considering how Australian and New Zealand institutions should attempt to approach retention that is only just becoming a significant issue within tertiary education.

In seeking to reinforce the premise that retention is everybody's business, an attempt will be made to describe some of the key features in major retention studies, the financial dimension, and how the application of these findings to periods like the first year experience can provide a better grasp of the issue within an Australian or New Zealand context.

STUDENT RETENTION EVERYBODY'S BUSINESS

INTRODUCTION

“The answer to the question of student retention which we offer is not simple. It identifies no single path to enhanced student retention, nor promises that all admitted students can be retained. It argues that there is no hidden magic, no unique formula or sophisticated machinery needed to retain students. Institutions need not look far afield to find the key to enhanced student retention. It is achievable within the confines of existing institutional resources. It springs from the ongoing commitment of an institution, of its faculty and staff, to the education of its students”.

Vincent Tinto (1995)ⁱ

The research and literature on retention and attrition internationally is voluminous. Comparatively speaking there has been little research on retention in New Zealand. Numerous studies have sought to identify models and sets of variables to explain what causes students to depart or to persist in tertiary education. For most students, deciding to leave tertiary education is not the result of one factor. Rather, it is the result of a combination of complex, interconnected factors that develop over time.

TERMS, DEFINITIONS AND TYPES OF DEPARTURE

The terms retention, attrition, departure, withdrawal will be used interchangeably. For the purpose of this paper retention is defined as the enrolment and successful completion by a student of their programme of study. Similarly, attrition may be best defined as referring to those students who stop (either gradually or at once) attending their programme or course of study, and do not respond to institutional intervention. Coutts (1994)ⁱⁱ devised a list of terms associated with the different forms of leaving by students, and these can be found at Appendix A. Likewise, there are multiple ways in which students may depart from tertiary education and these are shown in figure 1 below.

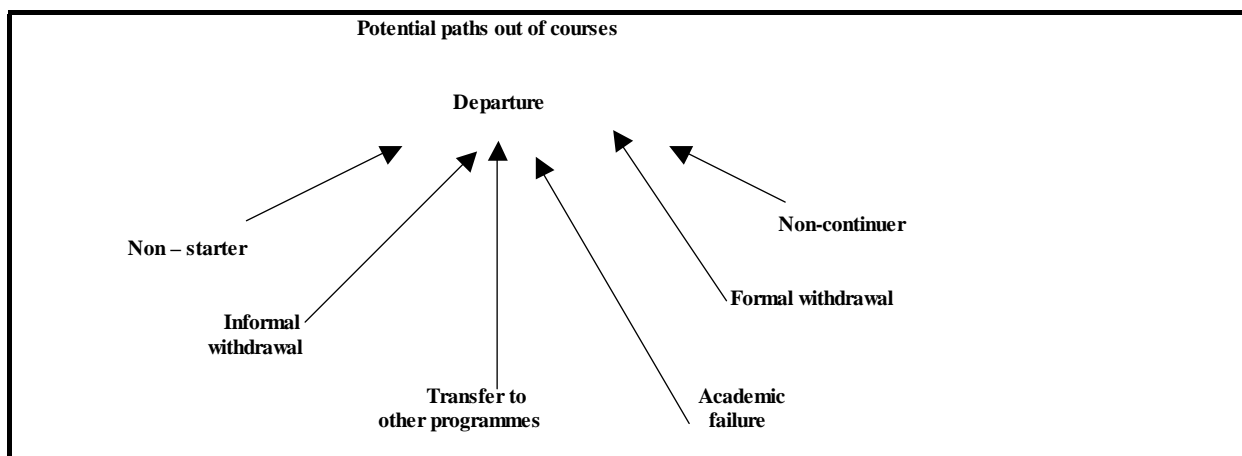


Figure 1.

Source: Kember (1995)ⁱⁱⁱ

RETENTION: THE EXTENT OF THE PROBLEM

Retention and attrition have both been perennial features of tertiary education during the last century. Nonetheless, attrition should be recognised as a perfectly normal function within tertiary education. (Tinto 1982, Bean 1980)^{iv}. An examination of the completion rates in the United States between 1880 and 1980 showed that the rate of attrition was consistently measured at 45 percent.^v Another study also concluded that attrition (in the United States across most types of institution) had been estimated at 50 percent for most of the century. (Sumerskill 1962).^{vi} As a global issue, high rates of attrition have also been recorded in Australia (Baumgart & Johnson, Abbott-Chapman, Hughes & Wyld 1992, West et al 1987, Promnitz and Germain, 1996, DEETYA)^{vii}, and in the United Kingdom (Vaizey 1971, McGivney, 1996).^{viii}

RETENTION AS A MEASURE OF INSTITUTIONAL PERFORMANCE

Retrenchment in government spending together with increased competition for a declining pool of traditional students has meant a need to retain those who enrol in the system. The Higher Education Funding Council (HEFC) in the United Kingdom (UK) use a formula based on student numbers and retention rates to determine the financial allocations among institutions. The potential effect of this is that institutions, “have to teach more with less, without wastage, and retention and completion rates will become crucial measures of institutional fitness”. (Rickwood, 1993)^{ix}. Performance indicators have begun to include items which directly monitor student progress and institutional accountability in terms of:

- Enrolment;
- Continuance; and
- Achievement.

Closely related to this is efficiency. Institutions and programmes in which large numbers of students graduate are perceived to be both efficient and successful. Government agencies like the Audit Commission (UK) regard “ attrition rates [as] a performance indicator ...to assess the success of educational institutions. Governments normally see attrition from courses as implying an inefficient use of resources, and high – dropout rates make them suspicious about the quality of an institution”. (Kember 1995)^x Early departure also calls into question the very credibility of higher education. (McInnis 1997)^{xi} Another drawback is the lack of transparency in making these figures available as, “ it is extremely difficult to obtain a clear and reliable picture of student retention and withdrawal patterns”. (McGivney 1996)^{xii}. Research is further complicated as many of the causes for attrition are institute – specific. (Tinto 1995)^{xiii}

The New Zealand Ministry of Education has tentatively addressed performance based funding being linked to the non-completion rate in institutions in the future. The Tertiary Information Project commencing in 2000 will require tertiary institutions to submit a Single Data Return (SDR) which will include reporting on withdrawal figures to measure the extent of retention across the sector. The establishment of the SDR will enable the government to use retention rates as a benchmark for funding allocations. Publicly, however, the explanation for this is that, “The development of a Data Warehouse for the tertiary education sector by January 2002 will ... enhance the ability of Government to plan, forecast, monitor and report on developments”. (Hon Max Bradford, Minister of Tertiary Education)^{xiv}

THE FINANCIAL DIMENSION OF RETENTION

There is a paucity of data and literature on the real financial cost of attrition to the student, the institution and the community.

Unquestionably, there are significant costs to an institution and other stakeholders as a result of completion failure. It is also salutary to remember that the true financial cost to society through attrition may well be higher if individual skills and knowledge are withheld from the labour market. (Astin 1975)^{xv} Non – completion results in a:

1. Loss of teaching time and expertise;
2. Loss of resources used (both human and financial); and
3. Adverse affect on the educational achievement for students continuing with their study.

The Audit Commission (UK) estimated the cost of completion failure at fifteen thousand million dollars. (Fielding, Belfield & Thomas, 1998)^{xvi} The best illustration of the cost of attrition is that it requires four newly enrolled students who depart after one year to equal the income of one student retained for four years. (Bean 1990)^{xvii}

Conversely, the financial benefits of retention can be considerable. Successful retention may be the only means that protect tertiary providers from uncertain futures. It has been estimated that over a five-year period the expected gain from increased retention strategies is between 10 and 20 percent of the entering student body. Gains smaller than 10 percent are normally seen as less than satisfactory, whereas gains much larger than 20 percent are typically seen as extraordinary. (Tinto 1995)^{xviii}. A recent retention study estimated that, “ for each 1% increase in the freshman retention rate, the university will collect approximately \$500,000 in additional tuition, and other revenue by the time those students graduate”. (Johnson 1997)^{xix}

STUDENT RETENTION – SOME THEORETICAL MODELS AND EXPLANATIONS

Tinto developed a longitudinal, predictive model in 1975 to explain the multiple variables that lead to student departure from tertiary education. This Student Integration Model (SIM) has been tested and supported by validated studies. (Pascarella and Terenzini 1979)^{xx}. The SIM (see Appendix B) was an attempt to bring clarity to the issue of retention and attrition using a theoretical base so that institutional planners and educators might better understand and predict the factors in retention in order to address them. At the heart of the SIM was the theory that student attrition was best explained by the extent to which social and academic integration had been made with the institution. The model sought to predict both departure and persistence by the extent a student interacted with an institution on a social and academic level. The theoretical explanation was that, “ ... given individual characteristics, prior experience and commitments, ... it is the individual’s integration into the academic and social systems of the college that most directly relates to his continuance in that college”. (Tinto 1975)^{xxi} Thus, Tinto asserted that students’ commitments are dependent on both background characteristics (family background, individual attributes) which initially has a strong effect on the goal of college completion and expectation (goal commitment) and to their chosen institution (institutional commitment). Therefore the stronger a student’s institutional commitment and focus on goal completion is, the more probable it is that they will persist until completion and interact with the institution’s social and academic systems.

The basis of Tinto’s model of integration was Spady’s (1971)^{xxii} extension of the theories of French sociologist Durkheim to tertiary education. Spady was the first researcher to apply Durkheim’s theory of suicide (1961) to dropout and draw an analogy to persistence. It was Tinto, however, that looked at ways to make this theory predictive rather than merely descriptive. Tinto expanded Durkheim’s theory by drawing parallels between institutional departure and insufficient integration by individuals into the fabric of society which was a precursor to suicide. The link was made between withdrawal from local communities and the departure from the institutional community, as the institution was a social system. Durkheim referred to two forms of integration:

- a) social; and
- b) intellectual.

Social integration was made possible by frequent interaction with members of society, and intellectual integration by shared moral values. In essence, Tinto was able to adapt this theory to individual student departure and more easily explain how institutions that were made up of different social and intellectual communities, could cause the withdrawal of their students.

In addition the work of social anthropologist Arnold Van Gennep, *The Rites of Passage* (1960) was also formative on Tinto's integration model. Van Gennep's study proposed that there were distinct stages in the transformation of individuals from one group to another. Each stage in the individual progressing to adulthood involved a different kind of interaction / transition between that person and other members of society. Tinto analysed the same difficulties in this series of transitions people made to that of students having to leave one community for another.

An alternative model, the Student Attrition Model (SAM) (see Appendix C) was developed by Bean in 1980 to explain variation in student attrition. Bean's SAM, rather than using Durkheim's theory of suicide relied instead on models of corporate attitude – behavioural interactions and turnover in industrial environments. Bean's analogy was that students' left tertiary education for the same reasons as employees did from work organisations. The SAM was a causal model which used education variables akin to organisational determinants to measure the extent of satisfaction and hence the likelihood of dropout. The SAM took into account the background characteristics of students, and while it was also longitudinal, it placed more emphasis on external factors to the institution as having a role to play in decisions affecting student departure. Although Bean noted that the attrition process differed between institutions, there were commonalities with Tinto's model. In particular, “institutional commitment is seen as leading to a degree in the likelihood that a student will drop out of school.”(Bean 1980)^{xxiii} Both models also recognised that for retention to occur there had to be a ‘fit’ or commitment between the student and the institution; course and academic integration, and that the relationship between departure and persistence was due to a complex mix of interactions over time. The main difference between the SIM and the SAM is that the former postulates that academic integration leads to enhanced academic performance, whereas the latter model regards academic performance as resulting from social – psychological processes.

A study by Cabrera et al (1992) examined both the SIM and SAM and concluded that, “..both add relevant knowledge to the understanding of the college persistence process, but that a model integrating the leading factors in each theory may contribute to explain this process better”.^{xxiv} When both models were tested to see which one was more valid overall, Tinto's SIM had 70 percent of its hypotheses confirmed, whereas only 40 percent of Bean's hypotheses were supported. Cabrera et al concluded that as there was an overlap between the two models, there were grounds for developing an integrative framework, “that may help institutional researchers understand the role of institutional and non - institutional variables in the college persistence process”. (Cabrera et al 1992).^{xxv} Using a variety of statistical tests Cabrera found that there was valid convergence of key variables between both models in:

- a) Courses and academic integration; and
- b) Institutional fit and quality and institutional commitment.

Cabrera et al's (1992) Integration Retention Model (IRM) (see appendix D) also showed that the complexity of external factors on college persistence (parental encouragement; support from friends; and finances) did account for variance between the intent to persist and persistence. This supported Bean's claim that the, “influence of environmental, organisational, and personal variables on persistence is more likely to be indirect, indicated through behavioural intention to stay or remain at the institution.”^{xxvi} Cabrera et al's (1992) findings were supported by a 1994 study at Angelo State University (ASU) in Texas where the IRM was examined to determine if institutional persistence, dropout and transfer were different. (Allen 1994)^{xxvii} The ASU study did find that, “programmes that emphasise social integration are likely to reduce propensities to dropout. Based on this study, all students at this institution who are considering leaving (dropouts and transfers to other institutions) will be positively influenced to persist at the institution if programmes focus on academic ability, institutional commitment, and encouragement from family and friends”.^{xxviii}

LIMITS AND EXCEPTIONS TO TINTO'S MODEL

SIM was based on findings from four – year, traditional, residential (or live – in) institutions in the United States. Applying these findings to non-traditional or to non – residential (or commuter) institutions as well as those which offer programmes of less than four years has been considered. A survey employing a theoretical model sampling students in a two year institutions found that, “the model is also reasonably useful in accounting for long –term persistence/withdrawal behaviour...in two –year institutions..indeed these two core concepts [academic and social integration] in Tinto’s (1975) model were the only predictors to have significant direct effects on both persistence measures for men and women”.(Pascarella, Smart, Ethington 1986)^{xxxix} Another retention study concluded that the Tinto model, “has withstood careful scrutiny from the profession and has become accepted as the most useful for explaining the causes of student departure from higher education”. (Boyle 1989)^{xxx} Indeed, use of the model and its predictive variables means that, “we know...that students with clear educational / career goals are more motivated towards success within the academic environment. We believe that students who make some sort of personal connection to the institution are more persistent in their educational efforts. We think that students who become truly engaged in the educational process, including career / life planning, are more likely to succeed”. (Ramos & Vallandingham 1999)^{xxxi}

In non –residential or commuting colleges the student body is also likely to include a significant number of part – time and mature students. The needs of mature students (who are also likely to be studying part-time) will be markedly different from those of traditional students. They will often be employed full-time and attending evening classes, and also possibly be married with young children. These factors explain why mature students usually have limited involvement in an institution’s social system. The relevance of the concept of intellectual /academic integration may not apply equally to mature students because their motivation and commitment is different from traditional students – i.e. it is career related as opposed to self-development. One survey of adult learners was able to demonstrate only partial support for Tinto’s claim as, “while the social integration variable has a significant and positive effect on retention, the academic integration as well as the career integration do not have such an effect”.(Ashar & Skenes 1993)^{xxxii}

However, Tinto’s main principles of the departure can be applied to non – residential and non – traditional institutions in four main areas through:

1. Establishing classroom communities;
2. Creating faculty and student communities within the institution;
3. Bringing local communities and the institution closer together; and
4. Ensuring the highest quality and delivery of services to students.

However, even in institutions where the majority of the students are only on campus for a short period of time, the need for social and intellectual integration does not diminish. (Tinto 1995).^{xxxiii} In fact the short duration of non – residential campuses might even be more reason to help students develop and participate in such a community which would not exist without planned activities and ceremonies. The creation of contact between academic staff and students will yield the same direct benefits demonstrating that student welfare is paramount to the campus community. Reinforcing this, it has been said that, “one has to question the price paid by the students who are unable/or not required to spend time on campus as part of their degree programmes. There are important forms of education which can only be acquired through face-to- face contact among students and between students, faculty and staff. No degree of simulation can replace those experiences”. (Tinto 1995)^{xxxiv} Recent trends and government policy in Australia and New Zealand has seen a preponderance of large tertiary institutions created through mergers and amalgamations. However, one of the factors that has been found to contribute to attrition is the size of an institution. If a large institution does not provide for a diverse range of social activities as well as more extracurricular and cultural events then student satisfaction is likely to be very low. The larger an institution is, the more likely it is to be perceived by students as unfriendly and uncaring with less interaction between faculty and students. (Newcomb 1962)^{xxxv}, Ashar & Skenes 1993; Tinto 1995). Means to counteract this include breaking down

institutions into smaller units of students that can focus on mutual academic issues. These first year student forums have found success in several institutions in the United States, including Syracuse (where family members can also be involved); and at Washington and Oregon universities respectively.

Other measures used to reduce the remoteness caused by size are social integration initiatives through orientation programmes, and other activities outside the classroom that reduce the sense of isolation for many students. Minority students have been found to benefit especially from groups or clubs established to promote ethnic activities. Thus, whether the institution is largely residential or not, has mainly part – time or full-time students, traditional or non – traditional, “the findings are the same: The more faculty members interact with and become engaged with students, the more likely the students are to stay in college”. (Lucas 1996)^{xxxvi} Furthermore, studies show that students who report rewarding contacts with faculty members are also the “ones who make the greatest gains in learning and are most likely to complete their degrees”. (Tinto 1989)^{xxxvii}

THE KEY TO RETENTION: A SEAMLESS APPROACH TO LEARNING

Involving students in the primary institutional goal of education is a means to an end. Not surprisingly, “learning leads to persistence – its absence is a root of leaving”.^{xxxviii} The extent and nature of the interaction between faculty and students will determine how these students assess the standard of the intellectual life of the institution. Delivery of educational excellence and involving students in their own learning is crucial to this aspect of retention. Tinto noted that, “educational communities which are committed to their students and which reach out and involve them in the community’s educational life, also generate student involvement in learning, and eventually student commitment to the goals of education”.^{xxxix} A study of undergraduates at Syracuse University in New York concluded that, “the present results suggest that the quality and impact of student – faculty informal contacts may be as important to students’ institutional integration, and thereby, their likelihood of persisting in college as the frequency with which such interactions occur. Moreover, they underscore the potential importance of faculty, in both their formal teaching and informal teaching roles, as an influence on freshman students’ decisions to persist or withdraw from a particular institution”. (Pascarella & Terenzini 1979)^{xl} A particularly useful model, the Undergraduate Research Opportunity Programme (UROP) was developed at the University of Michigan in 1989 to involve students in the academic mission of the institution in their first or second year. UROP is deliberately aimed at first year students where the risk of attrition is acknowledged to be greatest. Moreover, UROP is an integral part of the curricula of the students who participate, and not an extracurricular activity. In this way the primary aim of the programme, which is to facilitate research partnerships for first year students through a variety of activities (peer advising, workshops, research presentations) is achieved. Particular focus is given to minority students and women, whose need for academic integration and institutional identification required the most nurturing. A study of the UROP programme revealed that it did have a positive effect on retention statistics of those participating (most particularly with minority students). This outcome led to the finding that it, “provides lessons that are applicable to other institutions. Students should be integrated into core university missions through challenging, rather than remedial activities. Moreover, the intervention has to be multidimensional, including both faculty and student mentoring, active engagement, skill-building activities, and career – enhancing tasks”. (Nagada, Gregerman, Jonides, Von Hippel, Lerner 1998)^{xli}

RETENTION AND THE FIRST YEAR EXPERIENCE

Most successful retention programmes have concentrated, or ‘front loaded’ their efforts and resources on the first year experience. It was estimated that two thirds of institutions in the United States provide freshman seminars, with seventy percent of these being categorised as extended orientation courses. (Barefoot & Gardner 1994)^{xlii} Primarily, this is because, “research on student retention indicates that attrition is heaviest during the freshman year and at the end of this year”. (Eckland 1964).^{xliii} This early withdrawal mainly occurs in the first six to eight weeks.^{xliii} Moreover, it is important to realise that while a high proportion of students do depart from tertiary education during their first year, there

are, “many persons whose leaving in the first or second and sometimes third year has its roots in the first year experience”. (Tinto, 1995).^{xiv}

A study in 1995 of student attrition by UWS Macarthur in Australia measured the overall attrition rate of all new undergraduate students on campus at 22 percent. The largest group of these students were leaving for several reasons including, another university because a place had become available, distance/travel, improved job prospects, or a change in career. Moreover, almost half of the students who left UWS did not consult widely before making their decision to discontinue or interrupt their course. (Mellor 1995)^{xlvi} Similarly, in New Zealand, it was estimated that 20 percent of students withdraw from tertiary education in their first year of study.^{xlvii} The main factors for withdrawal was a lack of academic success, financial troubles, insufficient learning skills, homesickness, and not being able to cope with the stress of learning. This highlights that the most important time for retaining students is the first year of study.

Many first year seminars have been modelled on the University of South Carolina’s 101 course established in 1974. One of the key factors in these first year programmes is the immediate involvement of students into the life of the campus community. One factor which has been shown to have the strongest negative effect on overall student satisfaction is ‘lack of a student community’. (Astin 1990)^{xlviii} The programmes are thus heavily focused on the social and academic adjustment of first year students, and this includes orientation programmes (for parents and students); a Dean or Director of First Year Students; aggressive and intrusive counselling procedures; facilitating frequent informal contact with students; exit interviews; and a robust communication system which lets students know that their welfare is the main institutional priority. Orientation programmes can be crucial in integrating students into the institutional community, as “they help students to adapt more readily to the roles that they must assume in various learning environments by introducing them to survival skills most useful in this environment”. (Tittle 1985)^{xlix} A concerted orientation programme as part of the first year experience also has beneficial effects on student satisfaction and does increase retention, as satisfied students have, “ lower attrition rates, higher graduation rates and a greater sense of overall satisfaction with the quality of their academic preparation.” (Pascarella & Terenzini 1980)^l

The importance of having these ‘early warning’ systems in place for first year students means that it is easier for problems to be addressed as they occur. Once students have withdrawn it is too late for any kind of institutional intervention to be successful.

FIRST YEAR EXPERIENCE AND GOAL UNCERTAINTY

One of the most common problems for first year students is uncertainty about the choice of their programme. Three out of every four of students experience uncertainty over their programme and career goals at some stage in their tertiary study, with the first year being the most uncertain period.ⁱⁱ Thus, it is even more important that orientation and first year programmes provide academic or career advising as soon as undecided students enter the campus, “because many students change their minds about a major during orientation but are sometimes hesitant to admit it...separate advising sessions for undecided students can become an important part of orientation and set the tone for future contacts.” (Gordon 1985)^{lii}

A model formulated by Beal and Noel (1980)^{liii} set out three main services as being important to the retention of undecided students: orientation; advising; and career assistance. However, the model is dependent on first identifying undecided students at the formative stages of recruitment, enrolment, and orientation. Beal and Noel’s model also requires that services such as academic advising and the monitoring of students progress be intrusive, and be managed by appropriately trained staff. Procedures like these have led to a significant reduction in the levels of attrition at a diverse range of tertiary institutions such as Duke University, University of Notre Dame, Harvard University, Western New Mexico University, Jefferson Community College, and South Dakota State University^{liv}.

The overriding aim of the first year seminars, however, is not merely retention per se, but to enhance the educational experience of the students. (Tinto 1990)^{lv} McInnis also states that seeking to deliver

the ‘fundamentals of good teaching’ is the first step in the retention process as, “ there is no one magic key but at a general level, successful [retention] programmes are seamless in as much as they are effective at all points where the student interacts with the institution”.^{lvi} In a 1997 study conducted at Victoria University, Wellington (VUW) of first year leavers some common factors were identified and these are represented in figure 2 below.

Top Factors by age and gender

Women under 20 years	%	Men under 20 years	%
University enrolment	38	Course does not meet career choice	35
Course does not suit career choice	33	Left university for something more important to me	29
Discovered that I did not like the course after I had begun	33	The university environment did not suit me	24
Did not want to be in this course in the first place	30		
Women 20 and over	%	Men 20 and over	%
Left the university for something more important to me	41	Left the university for something more important to me	50
Personal, emotional, and / or family reasons	29	Financial problems	50
		Personal, emotional and/or family reasons	33

Figure 2. (Boddy & Neale 1997)^{lvii}

CONCLUSION

Whatever approach is taken to address retention in tertiary education it must be multi-dimensional which aims to deliver everything from academic and social support, as well as enhance the quality of education delivered to students. (McInnis 1997).^{lviii} Retention efforts will not work in isolation, and are unlikely to be successfully implemented if they are not part of the institution’s core mission which should be the delivery of quality education to all students. It is the integration of students into a rewarding and lasting educational experience by everybody involved in that process that will lead to a reduction in attrition. This approach is aptly everybody’s business, “ since the focus of retention effort is the quality of each student’s academic and social experience and the fit students experience with the institution, then everyone who works, teaches, and studies at an institution has a role in that retention effort....all have the opportunity (and the responsibility) to affect the student’s experience at the institution. The responsibility for retention cannot and does not rest with the student affairs staff or with some retention committee. It is a collective challenge to the total college or university community”. (Boddy & Neale, 1997)^{lix}.

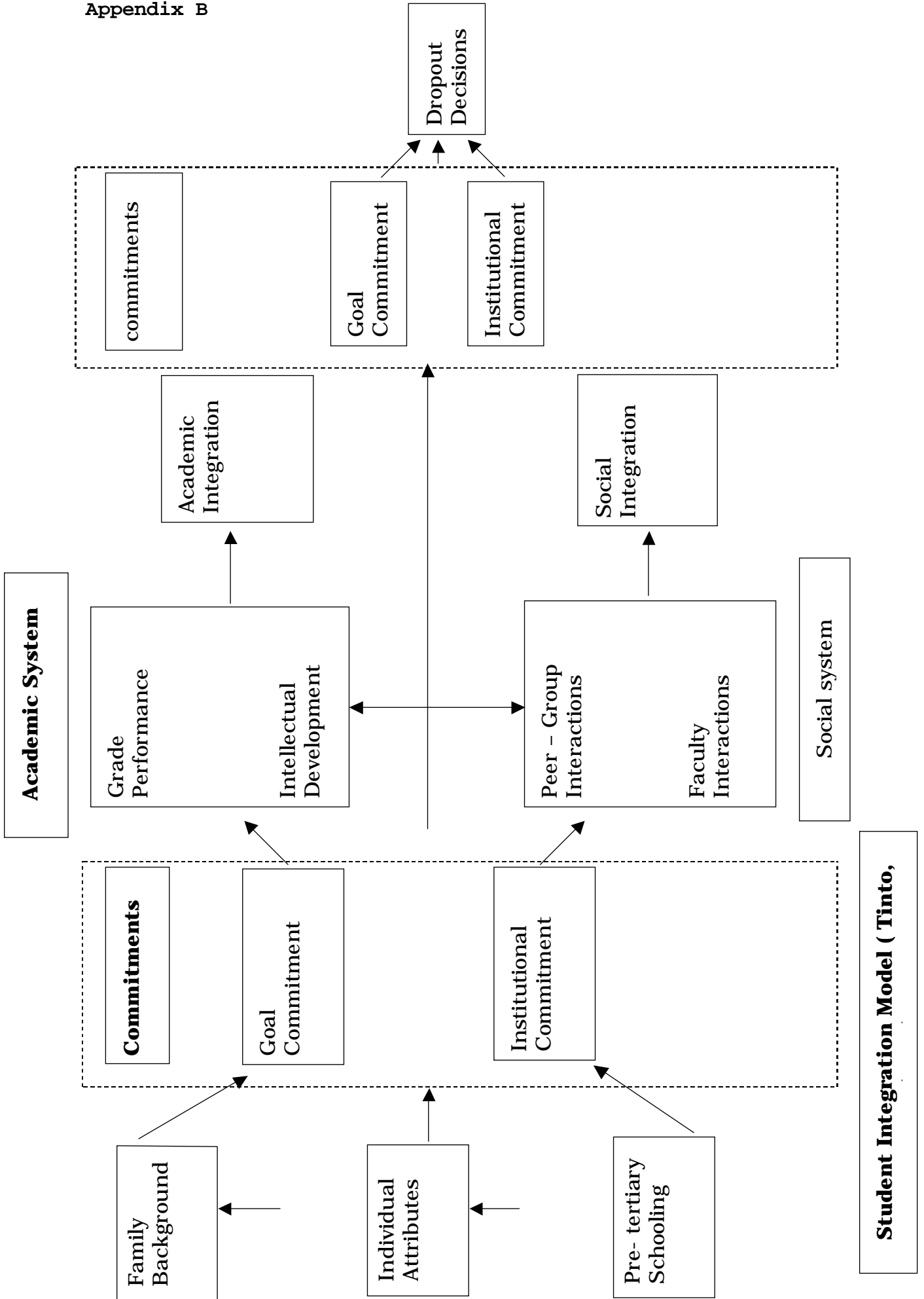
Appendix A:

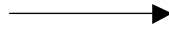
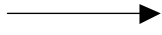
Terms and definitions : leaving behaviour of students (from Coutts 1994)

The following terms are those that may assist in defining the various categories of student leaving behaviour that appear throughout retention literature:

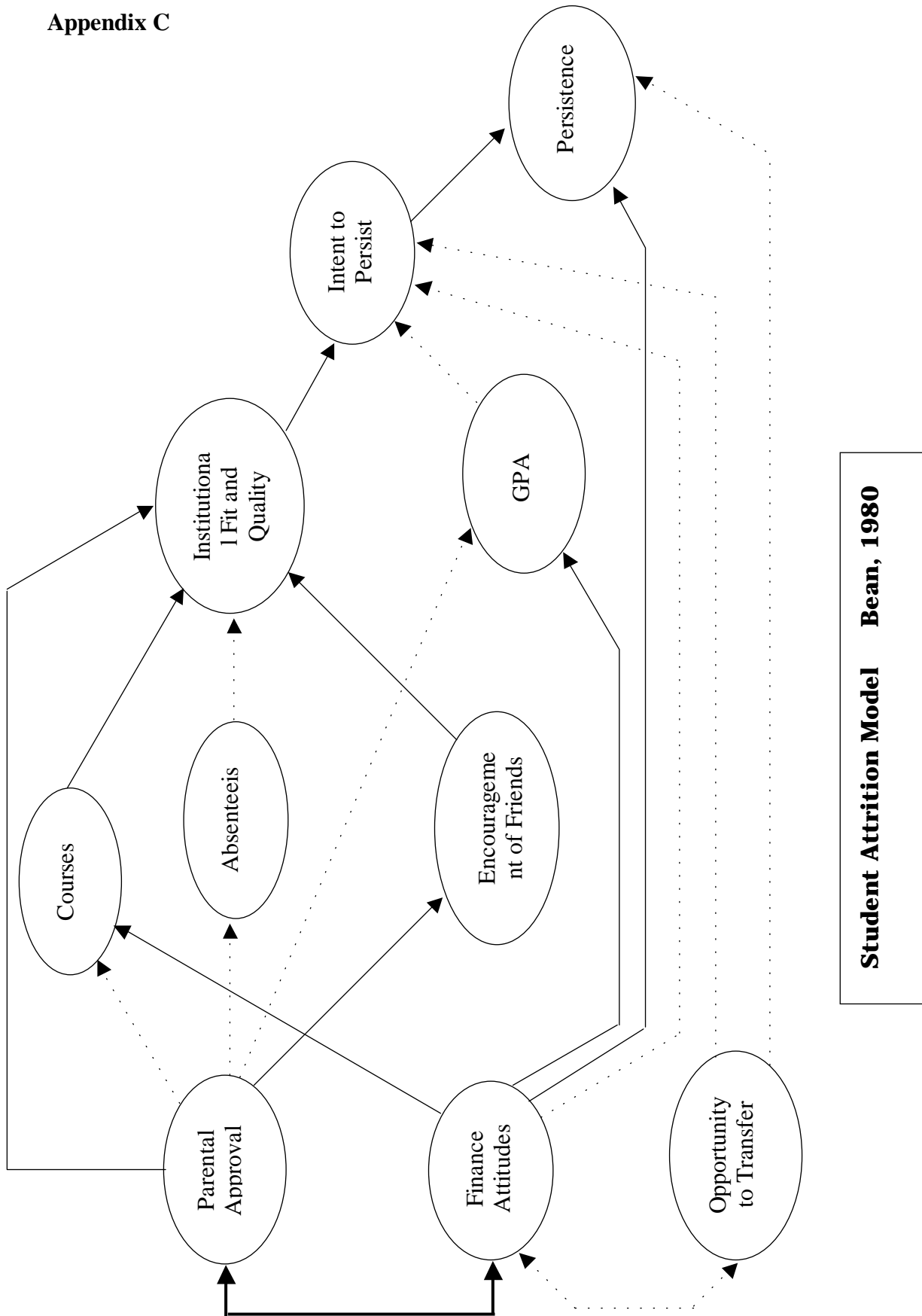
1. **Drop out:** refers to any student who leaves the programme of study for which they were enrolled in a given year. This term includes both those who formally indicate their intention to leave as well as those lost by way of attrition.
2. **Attrition:** describes the process whereby an enrolled student ceases to attend classes and fails to respond to follow – up procedures instigated by the institute. Such students may simply stop coming after a quite regular attendance, or more often they ‘peter out’, missing lectures and getting behind with their assignments before finally disappearing altogether; very rarely do students announce that they are withdrawing and explain why.
3. **Withdrawal:** describes the process by which a student (the withdrawer) who had enrolled subsequently informs the institute that s/he no longer wishes to continue studying.
4. **Failure:** describes the process by which the student who had enrolled is prevented from continuing studies by the institution because of failure to satisfy regulations, such as not meeting the standards necessary for minimum rate of progression.
5. **Wastage:** refers to students who finally enrolled but who did not gain a course credit, i.e. who did not complete the course successfully, either through withdrawing before taking the assessments or by failing the assessment. Implicit in the use of this term is the financial of the institute’s administration.
6. **Discontinuation:** is the process whereby students do not return to progress from one year to another in a multi-level programme.
7. **Stop-outs :** are students who are taking a break from study (stopping out), but intending to return.
8. **Transfer:** is movement to another institution to continue studies.
9. **Persisters:** are students who attend the programme they have enrolled in over the entire year or for the entire duration in the case of shorter courses. The persistence or retention rate compares the number of students completing the year with the initial number enrolled.

Appendix B

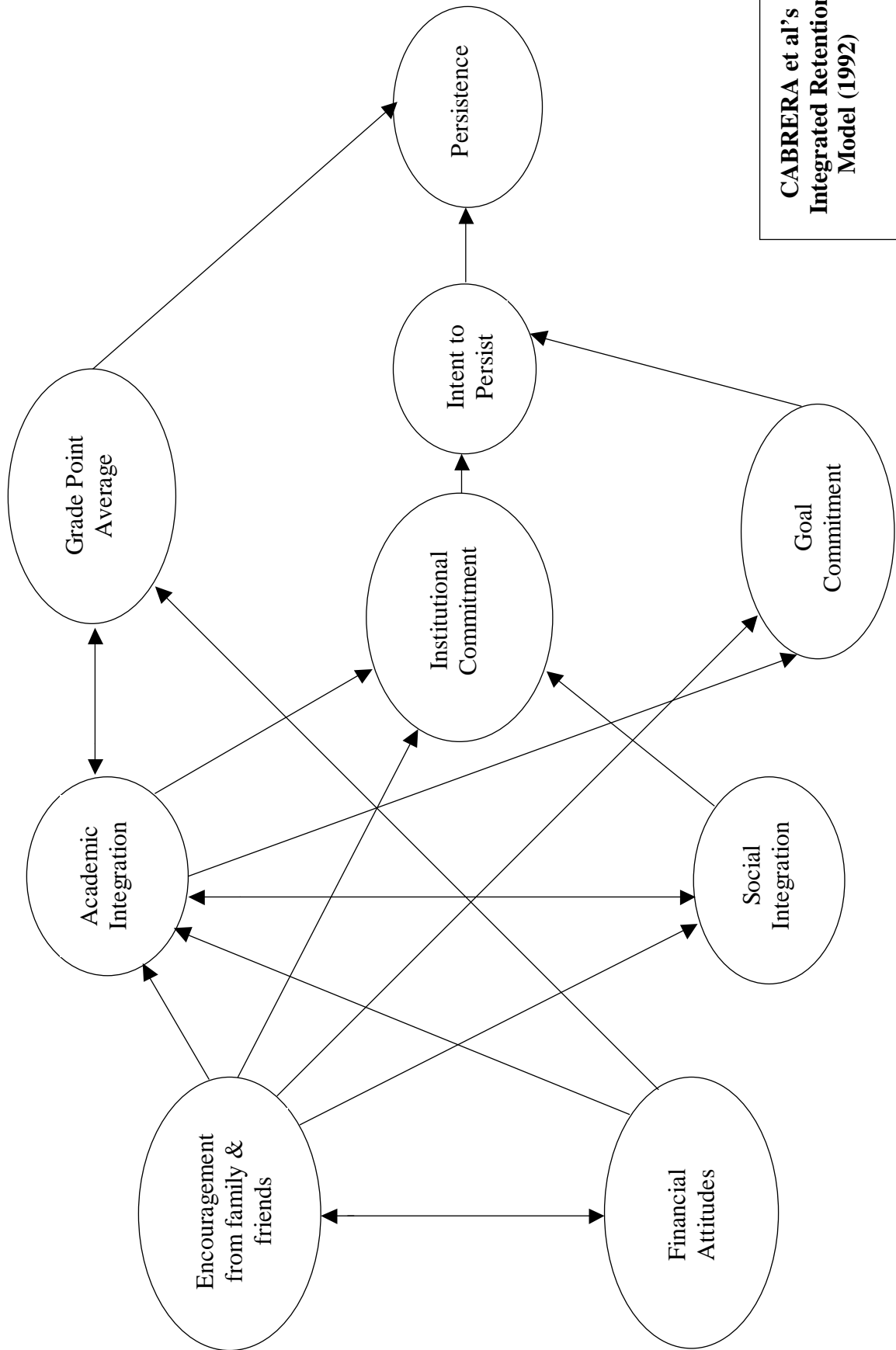




Appendix C



Appendix D



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- ⁱ Tinto, V. (1995) *Leaving College, Rethinking the Causes and Cures of Student Attrition*, University of Chicago Press
- ⁱⁱ Coutts, C. (1994) *Utilising drop – out research in the quest for quality: a case study of Wanganui Regional Community Polytechnic*, In Quality Assurance in Education and Training Conference Proceedings, NZQA, Wellington
- ⁱⁱⁱ Kember, D. (1995) *Open Learning Courses for Adults: A Model of Student Progress*, Englewood Cliffs, New Jersey, Education Technology Publications
- ^{iv} Tinto, V., (1982) *Limits of Theory and Practice in Student Attrition*, The Journal in Higher Education, Ohio State University, Columbus, pp 687 - 700
- ^v Tinto, V. (1982) *Limits of Theory and Practice in Student Attrition*, The Journal in Higher Education, Ohio State University, Columbus pps 687 – 700, at p 694.
- ^{vi} Summerskill, J. *Dropouts from College*. In N.Sandford (Ed.) *The American College*, New York, John Wiley & Sons, 1965)
- ^{vii} Baumgart, N E, & Johnstone, J N *Attrition at an Australian University: a case study*, Journal of Higher Education, 1978, 48, 453 – 570)
- ^{viii} Vaizey, J. *The costs of wastage*. *New Universities Quarterly*, 1971, 25, 139 – 145, and McGirvney, V. (1996) *Staying or Leaving the Course, Non – completion and retention of Mature students in Further and Higher Education*, National Institute of Adult Continuing Education, Leicester, United Kingdom)
- ^{ix} Rickwood, P. W. (1993) *The Experience of Transfer: A study of cohort students who used Open University credits to transfer to the institutions of higher education*, Open University, West Midlands, pp1 – 2
- ^x Kember, D (1995) *Open Learning Courses for Adults: A Model of Student Progress*, Englewood Cliffs, New Jersey, Education Technology Publications p 22
- ^{xi} McInnis, C (1997) *Mainstreaming and Managing strategies for successful transition and retention*, First Year Experience Conference, A.I.T., 6 October 1997, Auckland
- ^{xii} McGirvney, V. (1996) *Staying or Leaving the Course, Non – completion and retention of Mature students in Further and Higher Education*, National Institute of Adult Continuing Education, Leicester, United Kingdom, p 22
- ^{xiii} Tinto, V (1995) *Leaving College, Rethinking the Causes and Cures of Student Attrition*, University of Chicago Press
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