MINISTRY OF EDUCATION
Te Tāhuhu o te Mātauranga
New Zealand

Impact of Student Support Services and Academic Development Programmes on Student Outcomes in Undergraduate Tertiary Study: A Synthesis of the Research

Report to the Ministry of Education

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ISBN 0-478-13246-8
Web Copy ISBN 0-478-13247-6

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ACKNOWLEDGEMENTS

Thanks are due to a number of people and organisations who have assisted the team in an exercise that has taken longer to complete than any of us anticipated at the outset. To David Stuart and the project review group at the Ministry of Education for their guidance, encouragement and forbearance over the course of the project. To Professor Craig McInnis, our project monitor, for his advice and cautions at the outset; had we taken it we might have avoided a number of hurdles. To Bruce White of Massey University Library for his assistance in coming to grips with ProCite, our referencing tool, and to Anne Devonshire and her staff at the College of Education Library, Massey University, for their assistance in locating elusive references.

A special thanks and acknowledgment is extended to those few New Zealand researchers whose work in the fields of academic development and student support we have been able to locate.

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ABSTRACT

There are numerous factors contributing to successful study outcomes for undergraduate students. Only some of these factors are amenable to influence by the educational institutions themselves. This study has undertaken a synthesis of the research literature on two such factors: the impact of student support services and of academic staff development programmes respectively.

A synthesis was undertaken concerning the impact of academic development programmes on students' academic success and programme completion. The researchers found very few published studies that were able to draw a strong evidential link between such programmes and students' study outcomes. Instead, the relationship appears to be an indirect one: academic development programmes contribute to teachers' beliefs about teaching and their teaching practices; 'good teaching' contributes to successful study outcomes for students. The review concentrated on the evidence about the impact of academic development programmes on teaching behaviour and beliefs; the evidence linking teaching and learning has been thoroughly reviewed by others and was simply summarised in this study. The evidence is presented for each of the five principal forms of academic development in use: short courses; professional development within the work group; peer assessment and guidance; use of student evaluation of teaching; and intensive study programmes.

A second synthesis was undertaken of the research literature on the impact of student support services on student retention, persistence and achievement. The synthesis gave special attention to studies of students from diverse backgrounds. Thirteen action propositions were identified from the research. Ten of these offer ways of assimilating diverse students into existing institutional cultures. Three challenge institutions to change their policies and practices and adapt to the cultural capital brought by their diverse students.

EXECUTIVE SUMMARY

- In August 2002 the New Zealand Ministry of Education contracted a team of researchers from the College of Education, Massey University, to undertake a synthesis of the research literature on the teacher/educator and learning environment influences on student outcomes in undergraduate tertiary study.
- Student outcomes were defined as retention, persistence and achievement.
- The project divided into two parts: a general search of the literature followed by an in-depth search on two topics
  - The effect of academic staff development on student outcomes
  - The effect of institutional support practices on student outcomes.
- The methodology used was an adaptation of Slavin's (1986) best evidence synthesis approach. Best evidence synthesis was designed to avoid the constraints of meta-analyses and the haphazardness of unstructured literature reviews. In the first stage, the synthesis gathered as many studies as possible within broadly defined boundaries. Inclusion criteria were then developed and applied to the located studies. In the second stage, each included study was critically reviewed in the light of the inclusion criteria.
- For the academic staff development topic over 150 studies were examined, of which 33 primary sources were included in the list of abstracts. Three of these studies were based on New Zealand experience. There was little literature on direct relationships between academic staff development and student outcomes. Consequently this topic was divided into two sub-topics: the relationships between academic staff development and effective teaching; and those between good teaching and student outcomes. The report suggests four principal ways in which the research on the impact of teaching on learning has influenced the efforts of academic developers: first academic developers have developed principles and precepts of good teaching to inform their efforts; second, they have modelled their efforts on the beliefs and practices of exemplary teachers; third, they have built their advice and support for teachers on the beliefs of students about the elements of effective teaching; and finally, they have recognised the importance of the conceptions and knowledge that teachers bring to their work, and developed programmes designed to modify these conceptions. The report also assessed the strength of the research in support of the following five propositions about the impact of academic development on teaching beliefs and practices:
- Short training courses are unlikely to lead to significant change in teaching behaviour. They tend to be most effective when used to disseminate information about institutional policy and practice, or to train staff in discrete skills and techniques.
  - The academic work group is generally the most effective setting for developing the complex knowledge attitudes and skills involved in teaching.

- Teachers can be assisted to improve the quality of their teaching through obtaining feedback, advice and support for their teaching from a colleague or academic development consultant.
- Student assessments are among the most reliable and accessible indicators of the effectiveness of teaching. When used appropriately they are likely to lead to significant improvements in the quality of the teaching.
- Teachers' conceptions about the nature of teaching and learning are the most important influences on how they teach. Intensive and comprehensive staff development programmes can be effective in transforming teachers' beliefs about teaching and learning and their teaching practice.

- More than 250 studies were examined for the student support topic. 146 of these contributed to the findings, and 78 primary sources were included in the list of abstracts. The findings are presented as 13 propositions for practice. Ten of these offer ways of assimilating diverse students into existing institutional cultures. Three challenge institutions to change their policies and practices and adapt to the cultural capital brought by their diverse students.

  Assimilation

  - Institutional behaviours, environments and processes are welcoming and efficient
  - The institution provides opportunities for students to establish social networks
  - Academic counselling and pre-enrolment advice are readily available to ensure students enrol in appropriate programmes and papers
  - Teachers are approachable and available for academic discussions
  - Students experience good quality teaching and manageable workloads
  - Orientation/induction programmes are provided to facilitate both social and academic integration
  - Institutions provide and foster academic learning communities
  - A comprehensive range of institutional services and facilities is available
  - Supplemental Instruction (SI) is offered for difficult subjects
  - Peer tutoring and mentoring services are provided.

  Adaptation

  - There is an absence of discrimination on campus, so students feel valued, fairly treated and safe
  - Institutional processes cater for diversity of learning preferences
  - The institutional culture, social and academic, welcomes diverse cultural capital and adapts to diverse students' needs.

  - Few New Zealand specific studies were found, and only two used quantitative, statistical analysis. Those located tend to confirm the findings from international literature from the USA, UK and Australia.

- Given the huge amount of literature available only a proportion of relevant studies could be sampled in the time and with the funding available. Accordingly, this synthesis cannot capture all of the possible influences or their effects.
- For both the themes explored in this study, further research is urgently needed on student outcomes in the New Zealand context. In the case of the academic development theme, there is a need to provide more robust evidence for the efficacy of the various forms of academic development in place in tertiary institutions, both in terms of their impact on teaching practice and their ultimate impact on student outcomes. With respect to the student support theme, there is a need for research that will both replicate the withdrawal and non-completion studies conducted internationally and investigate the other side of the coin – what it is that teachers and institutions do well that enables diverse students to persist and achieve in the face of adversity.

PART ONE: INTRODUCTION

1.1 Project Outline

Governments in the Western world increasingly demand value for money from educational institutions. In New Zealand, recent policy documents (Ministry of Education, 2002; Tertiary Education Advisory Commission, 2000, 2001a, 2001b, 2002) signal increasing accountability for ensuring students who enrol in programmes are retained until completion. In August 2002 the New Zealand Ministry of Education contracted a team of researchers from the College of Education, Massey University, to undertake a synthesis of the research literature on the teacher/educator and learning environment influences on student outcomes in undergraduate tertiary study. The Ministry defined student outcomes as "encompassing immediate educational achievement (covering participation, progression, retention, completion and learning achievement), as well as later economic and social outcomes (eg labour market outcomes for students)" (Ministry of Education, 2002, p. 4). A particular emphasis was placed on locating New Zealand studies.

In its proposal the research team pointed out this was a task well beyond the parameters of available time and funding, and it was agreed that to be achievable the project would need to be more focused and that a two-phase approach was required. In the first phase, the research team would scope the research literature in the field and recommend a more focused analysis for a second phase.

The Phase One Report (Prebble et al., 2002) suggested a number of options for focusing the project:

- Focus solely on teaching practice as formalised by Chickering and Gamson (1987) in their principles for good practice in undergraduate education
- Focus exclusively on New Zealand-based research
- Identify institutional practices that have been shown to improve student outcomes
- Investigate the impact of academic staff development on students' learning outcomes
- Research the effectiveness of the provision of advice, counselling and support to students adapting to tertiary study
- Research ways that improve learning outcomes for students from ethnic or cultural minorities
- Research the effectiveness of teachers' methods to modify their teaching to suit the cognitive development of their students
- Research the effect of alternative models of curriculum design and structure on student outcomes.

At a meeting between the research team and the Ministry of Education it was agreed that Phase Two would focus on only two topics:

- The effect of academic staff development on student outcomes
- The effect of institutional support practices on student outcomes.

It was further agreed that 'student outcomes' would mean the effect of academic development and institutional support practices on retention, persistence and achievement.

In this introduction to the Report we provide an overview of relevant literature, summarise the methods adopted for the project, identify methodological challenges faced, introduce members of the research team, and summarise the shape of this Report.

1.2 Student Learning Outcomes Research before 1990

1.2.1 Early empirical studies

Student learning outcomes have been the subject of research in the USA since at least 1969 (Feldman & Newcomb). Emerging from these studies were generalisations and models. Astin conducted a number of studies that culminated in his *Four Critical Years* (1977) and *Achieving Educational Excellence* (1985). The former was identified as the most cited work in higher education literature (Astin, 1993). The cornerstone of his work became his *theory of involvement* – "students learn by becoming involved" (Astin, 1985, p. 133). He identified five propositions. According to Yorke (1999, p. 9), these are:

- involvement requires the investment of energy (psychological and physical);
- students invest varying amounts of energy in the tasks facing them;
- involvement had both qualitative and quantitative features;
- the amount of learning is proportional to the quality and quantity of involvement; and
- the educational effectiveness of a policy or practice depends on its capacity to stimulate involvement.

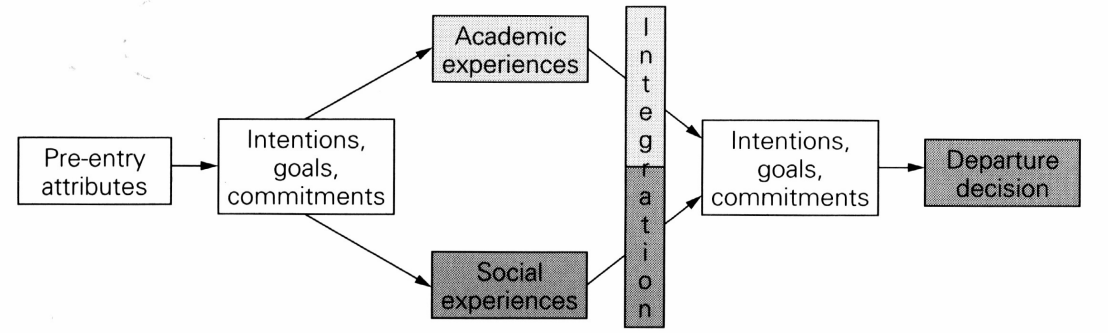
Astin's work gave some support to the belief that student commitment and the endeavours of educational institutions could lead to desired student outcomes. This belief informed the work of a number of theorists and who have concentrated more specifically on issues of persistence and non-completion as inhibitors to desired student outcomes.

Tinto (1975, 1988) developed a predictive model of integration based on Durkheim's theory of suicide and Van Gennep's work on stages of transformation. Durkheim had theorised that a lack of integration into the fabric of society could lead to suicide. Tinto suggested there was a similar link in higher education between student departure and a lack of institutional integration. Van Gennep had theorised that a person's journey to adulthood involved staged transitions between that person and other members of society. As with Durkheim's theory, Tinto applied this staged transition model to student retention and departure in higher education.

The model he developed in 1975, and has since much revised, described a longitudinal process of interactions between the individual and the academic and social systems of the

institution. These interactions continually modify students' goals and their commitment to an institution in ways that lead to persistence and/or to varying forms of drop-out (Tinto, 1975). Tinto suggested negative experiences in institutions lead to people experiencing diminished academic or social integration. They may come to the conclusion the academic, social, emotional and/or financial costs of staying are greater than the benefits of persisting. At this point they withdraw (Yorke, 1999). Tinto's model has six phases that, in simplified form (Yorke, 1999), are pictured in Figure 1.

Figure 1. A simplified form of Tinto's model of departure



While Tinto's integration model remains dominant in the retention literature, it has been critiqued on the basis that he did not take into account the contexts from which students come and within which institutions operate, and that integration is assimilative, fitting the student to the institution, whereas institutions also need to adapt to the diversity of their students.

Bean et al. (1980, 1985) also developed and refined a Student Attrition Model. Rather than drawing on sociology and and the phenomenon of suicide, they based their research in psychology and looked to turn-over in work organisations to explain attrition in higher education. While they agreed that students' actions are influenced by interactions with the institution and other students, they drew attention to the strong influence of the external environment and to success factors such as good Grade Point Averages.

1.2.2 How college affects students

Astin, Tinto and Bean were not the only researchers in the field before 1990. Arguably the most thorough synthesis of the literature on undergraduate student outcomes is *How College Affects Students* by Pascarella and Terenzini (1991), which synthesised research published since Feldman and Newcomb's *The Impact of College on Students* (1969). Pascarella and Terenzini included some 2,600 research studies in their synthesis. The project consumed some eight person-years of work, excluding their earlier years of scholarship in this field. The list of references fills 150 pages; the synthesis itself is a little under 700 pages. While their work pre-dated much of the current interest in best evidence syntheses, it would be difficult to critique the rigour of their synthesis. For each causal relationship, they indicated where the weight of evidence lay, how strong it was, and any contextual or methodological issues that needed to be taken into account. They did not adopt a single set of benchmarks for the inclusion or exclusion of research studies; they acknowledged that the quality of research varied across the field, and that in some areas the level of proof was weaker than in others. And yet the authors were the first to admit the limitations of their work: they concentrated on

just the previous 20 years; they focused primarily on North American literature; and there is no indication they looked beyond English language studies.

Pascarella and Terenzini (1991) organised their findings according to six headings, each of which was informed by a question. While it is impossible to do justice to their work in a brief summary, we draw below on their own 80-page condensed findings.

Change during college

What evidence is there that individuals change during the time in which they are attending college?

The most important and consistent research finding is that the college years are a period of sustained and widespread development for students. During their undergraduate years students typically exhibit significant change, or development, across the full range of cognitive, psychosocial, attitudinal and moral behaviours. This finding is consistent with theoretical models that view the college experience as a set of developmental or maturational tasks. Evidence of developments in learning and cognitive change is hardly surprising; this is the explicit objective of any college programme. Evidence that students' attitudes and values, their psychosocial behaviour and their moral development are also developing in a consistent direction is almost as clear.

Net effects of college

What evidence is there that change or development during college is the result of college attendance?

If we attempt to distinguish the outcomes that are caused explicitly by college factors from those that may have alternative causal explanations, we tend to find the effect size is considerably reduced. However, as with 'Changes during College', the college experience can be shown to contribute to most of the behavioural change that students exhibit during these years.

Between-college effects

What evidence is there that different kinds of postsecondary institutions have a differential influence on student change or development during college?

The research shows fairly consistently that "the net effect of attending college tends to be substantially more pronounced than any differential impact attributable to attending different kinds of colleges" (Pascarella & Terenzini, 1991, p. 588). The largest between-college effects tend to be in post-college career placement where factors of reputation and brand may be exercising a powerful effect on employability. The impact of different types of colleges, size of the college, racial composition, and location all exercise relatively weak influence on student outcomes.

Within-college effects

What evidence exists on effects of different experiences within the same institution? Within-college effects include the many interventions that individual colleges can bring to bear on the student's learning experience. Understandably, this area has experienced the most extensive research effort. Pascarella and Terenzini (1991, p. 610) made a number of general statements:

- the kind of within-college experiences that lead to significant student outcomes are frequently determined by the kind of college attended rather than being fully independent variables;
- certain experiences tend to attract students with certain traits or dispositions, and many within-college effects are essentially the accentuation of these initial student characteristics;
- within-college effects, like between-college effects, tend to be substantially smaller in magnitude than the overall net effect of attending college; and most importantly,
- the impact of college is largely determined by the extent to which an individual student exploits the experiences that the college makes available, rather than the student being a passive beneficiary of college effects.

Of greatest interest to the present study are Pascarella and Terenzini's findings on the impact of the academic experience itself:

- the greater the students' involvement in academic work, the greater their level of knowledge acquisition and cognitive development;
- programmes that increase a student's active engagement in learning (such as study skills tuition, peer tutoring, project learning, individualised learning programmes, and computer-based tutorial systems) tend to enhance knowledge acquisition;
- programmes that challenge students to confront existing cognitive or attitudinal constructs, or that require them to integrate knowledge across subject boundaries, encourage growth in critical thinking; and
- effective teaching (as it is generally understood from the research) contributes to effective learning.

Conditional effects of college

What evidence is there that the collegiate experience produces conditional, as opposed to general, effects on student change or development?

At the time Pascarella and Terenzini were preparing their synthesis, relatively little attention had been paid to the variable impact of different college programmes and teaching approaches on students with varying study preferences or other individual attributes. Nevertheless, the research evidence showed that certain kinds of students benefit more from one instructional approach than another. This gave the authors confidence to predict that students with different 'learning styles' would profit from different teaching styles.

What are the long-term effects of college?

Research suggests most immediate impacts of a college education persist, at least into the medium term. Follow-up studies of college graduates have found this group maintains a larger general knowledge base than those who did not attend college. Career advantages are also maintained over the longer term. Attitudinal and psychosocial changes continue to be exhibited into later working life.

1.2.3 The story continues post 1990

The rise of the accountability movement during the 1990s saw an increased interest in the relationships between educational experiences and learning outcomes. This led to further growth in the number of student outcome studies. An example is the national Postsecondary Education Cooperative in the United States on Student Outcomes (US Department of Education, 1997). This project is sponsored by the National Center for Education Statistics (NCES) of the US Department of Education. Another example is the series of research and development projects being undertaken by the National Center for Postsecondary Improvement at Stanford, CA (Dey, Hurtado et al., 1997). The publication of syntheses has also accelerated, primarily in the USA (Tinto, 1993; Evans, Forney and Guido-Dibrito, 1998; Levine & Cureton, 1998; Braxton, 2000; Light, 2001), but also in Australia (McInnis, Hartley, Polesel and Teese, 2000).

1.3 Methodology

1.3.1 Best evidence synthesis

This research was guided by Slavin's (1986) best evidence synthesis methodology and by more recent discussions on the relevance of systematic reviews (Davies, 2000; Boaz, Ashby & Young, 2002). The synthesis, designed to avoid the constraints of meta-analyses and the haphazardness of unstructured literature reviews,"combines the quantification of effect sizes and systematic study selection procedures of quantitative syntheses with the attention to individual studies and methodological and substantive issues typical of the best narrative reviews" (Slavin, 1986, p. 5).

Cassidy et al. (nd) suggested key features of best evidence syntheses should include:

- criteria for inclusion of articles and classification of data used;
- a search for relevant, unpublished material;
- estimates of the effects of interventions.

In a first stage, the synthesis gathers as many studies as possible within broadly defined boundaries. Inclusion criteria are then developed and applied to the located studies. In a second stage, each included study is critically reviewed in the light of the inclusion criteria.

1.3.2 Adapting best evidence synthesis

We adapted Slavin's (1986) best evidence synthesis approach to our needs and to the state of the research evidence rather than replicating it exactly. We employed a qualified librarian to conduct searches on library databases and the Internet. Later a special search was conducted for New Zealand material, published and unpublished. The sole initial criterion for inclusion

was that the item reported an empirical study of student outcomes concerning teacher/educator or learning environment variables. This sweep located several major international syntheses (Feldman & Newcomb, 1969; Tinto, 1975; Astin, 1977, 1993; Pascarella & Terezini, 1991). These were so comprehensive we were able to limit subsequent searches to studies conducted after 1990.

These early readings enabled us to develop more rigorous inclusion criteria for each of the two topics. We identified two kinds: content and process criteria. Content criteria were judgements about whether research studies fell inside or outside the terms of reference of the project. Some of these judgements were determined at the outset in consultation with the project review group. So for instance, we agreed that on-line learning and resource-based learning would not be studied. Other judgements were arrived at as the project team became more familiar with the research literature. For example, in the institutional support topic, it soon became evident that students who experienced effective academic and social integration into their institution and their subject area were more likely to be retained, to persist and to achieve. Specifically, enrolment processes and belonging to social networks were frequently identified as supporting social and emotional needs. Effective pre-enrolment advice, academic counselling, student-teacher relationships, and quality of teaching all appeared to support academic integration and were therefore included in our set of content criteria and themes.

Process criteria tested for rigour and richness. First, we identified five types of studies to be synthesised. The first was multi-institutional and quantitative using large samples. The second was also quantitative but within single institutions. The third produced qualitative data from multiple institutions. The fourth was also qualitative, generally using interview data in a single institution. The fifth contained work that was theoretical in intent but synthesised major quantitative studies. We included studies using the following research methods – surveys, analyses of student records, case studies, focus groups, face to face and telephone interviews.

Second, we tested the rigour of the study. For quantitative studies we distinguished between those using descriptive and inferential statistics, preferring those that tested for correlations, significance and, where possible, employed control groups. We selected qualitative studies that used a clearly conceptualised sampling design and semi-structured data gathering.

Related to rigour were issues about size of sample – our third process inclusion criterion. We excluded studies that researched individual classes or sub-groups of institutions. In this report we include information about all our process criteria on each included study, using a template designed for the purpose on ProCite, a bibliographic database.

1.3.3 Challenges

It will be apparent from the above, that our methodology was not a pure replication of Slavin's best evidence synthesis. As we faced several challenges that persuaded us we could not use his methodology in its pure form, we adapted it to meet these challenges.

The first challenge concerned the nature of the literature. Using a mixture of quantitative and qualitative studies was both necessary and deliberate. We could not have achieved a best evidence synthesis relying on large-scale, multi-institutional studies with control groups alone. There were too few such studies on which to base a pure best evidence synthesis. In addition, of the few New Zealand examples we located, only two used inferential statistics and only one of these used a control group. Yet, we felt strongly that the results of the other

New Zealand studies needed to be considered and incorporated. There was also evidence that multi-institutional studies can deliver different results on the same research questions to single institution studies (Braxton & Lien, 2000). Moreover, the evidence produced from quantitative studies tends to be explanatory and general. The qualitative studies enabled us to understand the finer grained reasons for outcomes. As a consequence, we did not always give primary weight to evidence from quantitative studies. We emphasised qualitative results where we felt these led to a better understanding of outcomes.

Attempting a rigourous best evidence synthesis proved particularly challenging for the staff academic development topic. While there were studies on the effects of staff development on teaching and on the effects of teaching on student outcomes, there was very little on the direct effects of staff academic development on student outcomes. This made a best evidence synthesis impossible to achieve, and an alternative approach was developed. Literature on each of the effects of teaching on student outcomes and the effect of academic staff development on teaching was treated separately.

The research on the effects of teaching on student outcomes is enormous and has been synthesised exhaustively and on many occasions. Rather than attempt to duplicate these efforts and produce yet another synthesis, we looked at the ways in which academic developers have been influenced by this literature. We identified four ways in which the research literature seems to have influenced the direction of academic development over the past few decades, and provided an overview of that literature. We were able to carry out a more comprehensive review of the research on the effects of academic development programmes on teaching, although well-designed studies of even these effects were relatively rare. The reasons for these shortcomings will be discussed in our review of that particular literature.

Given our inclusion of qualitative and descriptive quantitative research, a second methodological challenge concerned how to assess the significance and effect size of different research reports. This challenge was tackled in two ways. The first was the construction of a database using ProCite. We constructed a template for recording bibliographic data with particular reference to:

- type of study (quantitative, multi-institution; quantitative, single institution; qualitative multi-institution; qualitative, single institution; primarily theoretical work drawing on empirical studies)
- methodology (questionnaire, interviews, control group, document analysis)
- size of study (number of participants, variables, institutions or studies synthesised)
- research rigour (a judgement on whether rigour was acceptable or not; unacceptable studies were excluded. This also included information about the type of statistical treatment used)
- country of origin (to test whether data applied across countries).

The second was to make the basis of our research synthesis available for public inspection. In part 5 of this report we include the information recorded on our template about each study used in the synthesis. Readers may make their own judgement about whether our inclusion of the study is justified.

Our third challenge concerned the relevance to New Zealand of the vast amount of international literature. An implicit assumption with any international research synthesis is that an understanding of a set of phenomena in another country will be helpful in understanding these same phenomena in one's own country. Specifically, if we study the research on the determinants of undergraduate student outcomes in North America, Australia and Britain, we will learn something about the determinants of student outcomes in New Zealand.

There is sufficient congruence in many areas of the research literature on student outcomes to support this assumption. Broadly speaking, good teaching practices lead to improved learning outcomes, and well-targeted efforts to support students as they adjust to the demands of study at the college level do tend to increase the student retention rate in whatever country they live.

But we also concede that we are speaking broadly here. Context is important, and must be considered when evaluating international research. The differences between the contexts of study – be they programme-based, institutional, sectoral, cultural or national – can often account for more of the variance in student outcomes than the educational or student support initiatives themselves. We tried to allow for this effect of context with the 'country of origin' identifier on our template. Where overseas studies were supported by New Zealand work, no matter how qualitative or descriptive, this gave us confidence that the findings could be generalised and included in the synthesis.

1.4 Research Team

This *Teacher/educator and learning environment influences on student outcomes in undergraduate tertiary study* has been prepared for the Ministry of Education by a multi-disciplinary team from the College of Education, Massey University. The research team and areas of expertise are as follows:

Tom Prebble (Department of Social and Policy Studies in Education)	Higher education
Helen Hargraves (contract Research Officer)	Information retrieval and library systems
Linda Leach (Department of Social and Policy Studies in Education)	Adult learning and teaching
Kogi Naidoo (Training and Development Unit)	Teacher education, professional development
Gordon Suddaby (Training and Development Unit)	Teacher education, professional development
Nick Zepke (Social and Policy Studies in Education)	Adult learning and teaching, research methodology.

1.5 Report

This Report is intended to provide an empirically informed and theoretically valid basis for strategic planning and policy development both at the national and institutional level:

- Part 2 synthesises research findings about the relationships between academic staff development and student outcomes. It first examines relationships between teaching and student outcomes and then considers those between academic staff development and effective teaching. It draws conclusions about how academic staff development impacts on student outcomes.
- Part 3 focuses on research into the ways student support services affect student outcomes. The findings are presented as 13 propositions for practice. Ten of these offer ways of assimilating diverse students into existing institutional cultures. Three challenge institutions to change their policies and practices and adapt to the cultural capital brought by their diverse students.
- Part 4 summarises findings in the form of recommendations, explains the limits of the research and identifies directions for future research.
- Part 5 lists the research studies that we have used to support the propositions in Parts 2 and 3. These are presented in the standard format described in section 1.3.3. Each mention of a study that appears in this list is presented in **bold** within the text to allow easy referencing to part 5. Only those studies reporting on primary research and meeting the selection criteria were included. Syntheses of already published research are cited in the body of the report but not included in this list.
- Part 6 is a complete bibliography of literature used in this study, both the studies that have been synthesised and those that have been simply been referred to in the report.

PART TWO: ACADEMIC STAFF DEVELOPMENT AND ITS IMPACT ON TEACHING AND LEARNING

2.1 Introduction

Each year institutions of higher education invest substantially in the development and training of their academic staff in the expectation this will improve the quality of their teaching and the outcomes of that teaching in terms of student learning. In this section we examine some of the assumptions underlying these academic development activities, the major forms of academic development that take place, and the research evidence as to their outcomes in terms of the performance of teachers and students.

We begin by examining the relationship between academic development activities and student learning, and the challenges faced by researchers in attempting to establish a causal relationship between the two. We suggest the relationship is at best an indirect, two-step process where one body of research evidence supports a relationship between teaching and learning, while another body of research explores the relationship between the efforts of academic developers and the performance of teachers.

This two-step relationship will be expanded as a set of propositions about the relationship between teaching and learning on the one hand, and academic development and teaching on the other. These propositions will provide a framework for the exploration of the research evidence for these relationships.

Under the first proposition we will explore some of the broad influences on academic development. These include: the research on learning and teaching, and the various approaches that have attempted to derive models of good teaching from this research; the research on teachers' perceptions of good teaching that continues to influence approaches to academic development; and finally a group of more integrated conceptual models of teaching and learning that are increasingly informing academic development efforts around the world.

We then examine the various approaches to academic development and the research evidence for their impact on teacher and student performance. These include programmes that withdraw teachers from their day-to-day teaching to undergo training and development; programmes that take place in the context of teachers' day-to-day work; programmes that involve one-to-one consultation with teachers; programmes that help teachers learn from the feedback they receive from their students; and more intensive, longer term programmes of academic development that seek to transform teachers' beliefs about teaching and learning as well as their teaching practice.

2.1.1 A two-step relationship

At the outset of this project we were advised there were few if any published research studies that even attempt to demonstrate the direct impact of academic development programmes on student outcomes. In hindsight this observation should not have surprised us. The relationship between what teachers do and what students learn is itself complex and contingent. It is dependent on many variables, change in any one of which may affect the student outcomes. A huge research literature is devoted to exploring this relationship, but such is the complexity of

the underlying relationships that the field can still accommodate sharply discordant interpretations and even ideologies. The efforts of academic developers are based, more or less, on this research literature and the optimistic assumption that if we know what sort of teaching contributes to successful student outcomes then we can assist teachers to espouse and practise these approaches to teaching. Researching this assumption provides its own challenges. Most academic development programmes are complex activities pursuing multiple objectives and incorporating many different elements. They are hard to replicate within a naturalistic research environment. The intended changes in teachers' beliefs and behaviour are also difficult to observe and measure. But if it is difficult to establish the relationship between cause and effect with either of these two sets of relationships, it has proved almost impossible to establish a causal relationship across the two sets of relationships – between the efforts of academic developers to change teachers' beliefs and behaviour on the one hand, and the learning outcomes of students exposed to these changed beliefs and behaviours on the other.

Instead, this study will explore the two sets of relationships separately and suggest a two-step scaffolded relationship between the two.

2.1.2 The propositions

Our study of the research literature suggests two principal propositions concerning the relationship between academic development and student learning outcomes: good teaching has positive impacts on student outcomes; and teachers can be assisted to improve the quality of their teaching through a variety of academic interventions. The second principal proposition leads to a further five sub-propositions (2A-2E).

> ***Proposition 1: Good teaching has positive effects on student outcomes.***

The first of these propositions draws on the immense and disparate research literature on teaching and teaching effects. This research has been comprehensively and repeatedly reviewed (e.g. Floden, 2001; Menges & Austin, 2001; Pascarella & Terenzini, 1991; Perry & Smart, 1997) and it is not our intention to replicate this work. Our interest was to study how academic developers have used this literature to inform their efforts, rather than to undertake a comprehensive review of the primary research that contributes to this literature.

Academic Development is still a relatively new focus for higher education. Up until at least the 1960s the prevailing assumption was that academics were appointed on their academic merits and that they would soon pick up the skills of teaching their discipline to their students. The first appointees to designated academic development positions were generally directed to support the induction of newly appointed academics who were struggling to get to grips with their new role. Their early efforts tended to focus on the technical skills required to organise, deliver and assess their courses.

Since those early beginnings, academic developers have sought their professional directions from a number of sources. First, and very importantly, they have attempted to identify in the research on teaching and learning those teaching approaches that lead to effective learning and then to design academic development programmes to encourage these attributes and behaviours. Second, they have asked teachers what they consider to be the attributes and behaviours of effective teachers, and designed their programmes to encourage the

development of these attributes. Third, and this relatively recently, they have recognised that the relationship between teaching and learning is a complex one in which the attributes and behaviour of the learner are just as influential as the behaviour of the teacher. A deeper understanding of this interplay of teacher, context, student and curriculum has led to the development of more integrated conceptual models of teaching and learning that now play a major role in shaping the efforts of academic developers.

> ***Proposition 2: Through a variety of academic development interventions, teachers can be assisted to improve the quality of their teaching.***

This proposition is the core of this part of the study. We have examined the research literature for studies that have attempted to measure the impact of academic development programmes on teaching practice, and wherever possible, on student outcomes. Like teaching itself, academic development is a complex, shifting process that can rarely be fully replicated, even by the same individual. Nevertheless, some common patterns can be discerned among the work of academic developers. These patterns relate in part to the modes of academic development commonly in use, and in part to the theories of teaching and learning that inform this practice. We have used these patterns and theories to identify a number of distinct approaches to academic development that have informed our approach to the research literature and our presentation of our synthesis of the evidence from that literature. On the basis of that analysis, we have derived a series of propositions about the effectiveness and appropriate application of each of these approaches.

2.2 Proposition 1: Good teaching has positive impacts on student outcomes

A founding premise of any educational institution is the belief that teaching directly influences learning. The empirical question that arises immediately from this premise is whether differences in teaching behaviour systematically influence the quality and rate of learning and knowledge acquisition by students. The research evidence on this, found in many thousands of published research studies, is generally positive, though the effect is not always a strong one. This work has been subject to numerous syntheses over the years. Perhaps the most authoritative of these is the *Handbook of Teaching*, a 1000-page research digest that undergoes a major rewrite every decade. The most recent edition (2001) has an article by Menges and Austin on "Teaching in Higher Education" with a list of some 400 references, and another by Floden on "Research on Effects of Teaching" with another hundred references, and numerous other articles on more specific dimensions of the teaching and learning processes. There are numerous other well-produced syntheses of the research on effective teaching such as *Effective Teaching in Higher Education Research and Practice*, edited by Perry and Smart (1997).

The key question for this part of the synthesis is how does this body of research inform the efforts of academic developers? We suggest that a comprehensive grasp of this huge research literature is an unrealistic goal for most academic developers. In most instances, we suggest, their efforts are guided by reference to one or more of the sources identified in the previous

section. These sources will form a framework for our examination of the guiding influences on the work of academic developers

2.2.1 Elements and precepts

A primary guide for academic developers is the conviction that it should be possible to identify a set of teaching attributes or precepts about teaching that contribute to effective student learning. Pascarella and Terenzini (1991, p. 94) suggest the evidence for this relationship has focussed on answering two related questions: what are the dimensions of more effective (versus less effective) teaching behaviour; and, how are these various dimensions related to subject matter learning? They cite a number of studies where student evaluations of teaching were factor-analysed to identify the major dimensions of effective teaching. They suggest the following six-fold taxonomy reported by Cohen (1981) is broadly representative of the studies they looked at:

- Skill: the instructor's overall pedagogical adroitness.
- Rapport: the instructor's empathy, accessibility and friendliness to students.
- Structure: the extent to which the course is well planned and organised.
- Difficulty: the amount and difficulty of work expected of students in a course.
- Interaction: the extent to which students are encouraged to become actively engaged in class sessions.
- Feedback: the extent to which the instructor provides feedback on the quality of a student's work.

Pascarella and Terenzini then report on the evidence answering their second question. Again, drawing on a large number of studies of student perceptions of teacher behaviour, they find positive correlations between all six of these dimensions and course achievement by students. However, the relationships are neither strong nor uniform. In a meta-analysis of the evidence from 41 studies in this area, Cohen (1981) found that of the six dimensions of teacher behaviour, only instructor skill and course structure or organisation had significant mean correlations with course achievement, .50 and .47 respectively. More modest correlations were found for rapport (.31), feedback (.31) and interaction (.22). Students' overall ratings of the quality of the teacher and the course yielded correlations with course achievement of .43 and .43 respectively.

These six dimensions of 'effective' teaching have provided a framework for most of the efforts undertaken by institutions to improve the quality of their teaching. The staff development literature frequently mentions the high level of agreement in the field about the attributes of good teaching. These attributes then form the basis for programmes of staff selection, training, support and assessment that institutions bring to bear.

In spite of this broad agreement, different authorities bring their own emphases to the definition of good teaching. A few examples may demonstrate:

Ramsden, Margetson, Martin and Clarke (1995) found general agreement in the research literature to the following attributes of good teaching at all level of education:

- Good teachers are also good learners and are committed to improving their practice through learning more about their craft and reflecting on their own performance.
- Good teachers display enthusiasm and a desire to share their knowledge with their students.
- Good teachers recognise the importance of context and can adapt their teaching to the requirements of different groups of students and different teaching situations.
- Good teachers encourage deep rather than surface learning approaches.
- Good teachers set clear goals, employ appropriate assessment measures, and provide comprehensive feedback to students on their performance.
- Good teachers respect their students and set high goals for their achievement.

This list of attributes certainly reflects the set of attributes of good teaching commonly identified by students' evaluation of teaching (Cohen, 1981), but it also draws on a broader range of research into teaching effectiveness. The purpose of the authors was to identify those aspects of teaching behaviour that make a difference and that can be influenced by increased understanding, skill and commitment.

Taking this training emphasis a step further, Ellington (2000) proposed 'seven golden rules' for becoming an excellent tertiary-level teacher. Again, these were drawn broadly from the research on student outcomes, but have been selected and oriented to suit the training mission:

- Find out how your students learn.
- Set appropriate learning targets.
- Use appropriate teaching/learning methods.
- Use appropriate assessment methods.
- Monitor and evaluate your teaching.
- Always try to improve your performance.
- Keep yourself up-to-date.

It is interesting to note that in an effort to acknowledge the complexity and variety of teaching challenges and contexts that teachers may be exposed to, Ellington avoided stipulating an optimum set of targets, teaching methods or assessment methods. His 'rules' begin to look more like Cohen's attributes.

Chickering and Gamson (1987) had less hesitation about identifying what works. A teacher employing their 'seven principles for good practice in undergraduate education' will:

- Encourage contact between students and faculty.
- Develop reciprocity and cooperation among students.
- Encourage active learning.
- Give prompt feedback.
- Emphasise time on task.

- Communicate high expectations.
- Respect diverse talents and ways of learning.

Each of these principles finds its roots in the more comprehensive and more qualified statements and guidelines already outlined. What distinguishes them from the previous examples is their bold and unapologetic selectivity. Chickering and Gamson were trying to influence classroom practice and were aware that seven simple and unqualified precepts will have greater impact on busy practitioners than a careful exploration of context and contingencies (Gamson, 1991). For all their partiality and lack of attention to context, the seven principles are well supported by the research literature of the previous half-century, and were arrived at by a distinguished group of researchers and commentators on higher education (Sorcinelli, 1991). Few sources are cited as frequently in staff development literature as the Chickering and Gamson principles.

Another factor that distinguishes the Chickering and Gamson principles from the previous examples is their concern for institutional fctors as well as teaching behaviours. Encouraging contact between teachers and students, and developing reciprocity and cooperation among students, are challenges that both the institution and the teachers need to commit to.

Consistent with Chickering and Gamsun's acknowledgement of factors beyond the teaching act that will impact on effective learning, there have been many attempts to take a broader, institutional view, and to attempt to identify the factors that contribute to a supportive learning environment. Hundreds if not thousands of policy statements have been developed by educational institutions concerning the principles guiding teaching and learning. These are also likely to be based on the research on teaching and student outcomes, but tend to be much broader statements that acknowledge the diversity of programmes and teachers within any institution. They are also likely to acknowledge the socio-political environment within which the institution operates, and the relationship between teaching and other core institutional operations. *The Nine Principles Guiding Teaching and Learning in the University of Melbourne* (2002) are a good example:

- An atmosphere of intellectual excitement.
- An intensive research culture permeating all teaching and learning activities.
- A vibrant and embracing social context.
- An international and culturally diverse curriculum and learning community.
- Explicit concern and support for individual development.
- Clear academic expectations and standards.
- Learning cycles of experimentation, feedback and assessment.
- Premium quality learning resources and technologies.
- An adaptive curriculum.

This list of principles declares its debt to the research literature on teaching and student learning outcomes, but it also serves other important institutional principles and aspirations.

These attempts to identify and promote the elements of effective teaching and the creation of a supportive learning environment have been endorsed and codified by a variety of national and professional agencies. Examples would include the 'domains of good practice' issued by the National Center for Higher Education Management Systems (2000), the 'prompts for good practice' issued by the Higher Education Research and Development Society of Australasia (2003), the 'learning principles' identified by the American Association for Higher Education (1998) and the 'guidelines for effective university teaching' issued by the Australian Vice-Chancellors' Committee (1993).

This brief overview of attempts to identify the attributes of good teaching throws up a further methodological challenge to research in this area. We have identified a broad consensus on what constitutes good teaching, and indicated that this view is generally supported by the research on student perceptions and student outcomes. We have also suggested this consensus provides no more than a guide to the efforts of staff development units to improve the quality of teaching of their academic staff. This has meant that any research into the impact of staff development efforts on teaching performance needs to indicate the nature of the specific training provided and its objectives. Comparisons between staff development programmes in terms of efficacy will be difficult to achieve unless it can be demonstrated we are comparing like with like.

Another approach to studying the impact of teaching on student learning outcomes is to consider the variety of teaching methods that can be brought to bear. There have been various attempts to synthesise the literature on this approach but a study undertaken by Entwistle (1992) has been probably the most influential on the practice of academic developers. Entwistle surveyed the research evidence on the effectiveness of lectures, resource-based learning and open and distance eduction, tutorials, and group project work in contributing to student learning outcomes. The research evidence largely supports the intuitive expectations about each mode of teaching:

- Lectures are a good way to engage a group of students with new concepts and ideas; they are less useful as a way to transmit detailed and bulk information.
- Experienced and confident students can achieve comparable learning outcomes through 'resource-based' study or distance learning each of which provide students with comprehensive set of structured study material; others may need more frequent direction and monitoring than these modes commonly provide.
- Tutorials can be an effective way to encourage consolidation and elaboration of student learning in higher education and may enhance thinking and interpersonal relations. They are no more effective than lectures at transmitting information.
- The success of group project work and work-place practice seem to depend on the clarity of purpose and the level of guidance and monitoring that is provided by staff.

In summary, the effectiveness of each of these teaching methods seems to depend on the appropriate match of method to teaching purpose, and the knowledge and skill that the teachers bring to the method in question. Little of the research evidence seems to be counter-intuitive. Entwistle also summarised the research on teaching, student learning processes and student outcomes, and the evidence on the effectiveness of efforts to improve students' study skills, each of which will be discussed later in this report.

The Entwistle study has been quoted at length because his primary objective parallels our own. His study was commissioned by the Universities' Staff Development Unit of the Committee of Vice-Chancellors and Principals of the Universities of the United Kingdom (CVCP) to inform and guide the staff development policies and practice of British universities. He concluded there was strong research evidence that particular methods and approaches to teaching produced better student outcomes than others. These gains would not be achieved by leadership directives; they would require an extensive institutional commitment to staff development and to supporting and rewarding good teaching practice.

2.2.2 Teachers' beliefs about teaching

There have been numerous studies designed to identify both teachers' and students' views on the attributes of effective teaching. Feldman (1989) published a review of a number of studies that correlated the views of teachers with those of students on this subject. He found that among the 22 characteristics examined across these various studies, 'clarity and understandableness' and 'teacher preparation and organisation' are the most important characteristics from the viewpoint of both teachers and students.

These findings have been explored by more recent studies. Reid and Johnson (1999) undertook a phenomenological study of the conceptions of good teaching held by both a group of university lecturers and a group of students. They used repertory grids (a technique to identify and analyse personal constructurs) to identify a large number of constructs about good teaching. They resolved these into six dimensions, and surveyed their subjects to discover the relative importance each group gave to these elements. As with Feldman's overview, they found a high level of agreement between the ratings of the two groups. The only important variation was the top ranking given to 'clarity' by the student group compared with its third ranking (below 'interest' and 'depth') by the teachers.

There have been a number of studies of the concepts of teaching held by 'expert' teachers. Johnston (1996) interviewed four academics who had received awards for teaching excellence. They all demonstrated a clear sense of purpose in their teaching and a willingness to modify their teaching to suit the requirements of the situation; an emphasis on student learning and the importance of students learning the subject matter; an enjoyment of teaching; and a willingness to change and experiment with their approach to teaching.

Dunkin (1995) compared the concepts of teaching held by a group of novice lecturers at the University of Sydney with those of a group of award-winning lecturers. He found that the novice teachers held relatively simple concepts of teaching. Most of this group saw their primary tasks as structuring learning or motivating learning with some holding both views. A smaller number saw their role as encouraging independent learning, while others recognised their role in establishing within the classroom relationships that were conducive to learning. The more experienced expert teachers tended to hold all four of these concepts of their role while the novice teachers seldom volunteered more than one. Dunkin also surveyed each group on their self-efficacy with respect to their teaching – the extent to which they believed their teaching led to improved learning. The expert group had consistently stronger feelings of self-efficacy than the novice group.

Hativa, Barak & Simhi (2001) looked more closely at the knowledge and beliefs of a group of exceptional teachers from a research university in Israel. Gathering their data from interviews

and from videotaped lessons, the researchers studied their subjects' beliefs about four dimensions of teaching: organisation, clarity, application and interest. They found few commonalities among their sample. While it was important to excel in at least one of these four attributes, it did not seem to matter in which attributes they did excel.

Ballantyne, Bain & Packer (1999) studied a sample of 44 teachers selected from 708 higher education teachers selected as 'exemplary' by their heads or deans. He found consistent themes being expressed by these teachers when asked to reflect on their practice: a love of their discipline (expressed by enthusiasm and a concern to create and maintain student interest); valuing students and their perspectives (caring for students, pitching their teaching at students' level, ensuring relevance in teaching, and starting from practice); and making learning possible (tailoring teaching for the intended learning, managing student discomfort, interacting with students to ensure learning, fostering generic learning skills).

At large studies of lecturers tend to find more disappointing levels of knowledge, skills and confidence. Gow, Kember and Sivan (1992) studied 39 lecturers selected at random from the staff of a large Hong Kong polytechnic, to determine their views on their teaching and the reasons for its effectiveness or otherwise. When asked about the goals of higher education most subjects identified the 'development of problem-solving skills', followed by 'training for the professions'. When asked what they were trying to achieve in their own courses, however, these lecturers overwhelmingly claimed to be training for the professions. The lecturers did not seem to be conscious of this mismatch between their two responses and few of them claimed to be incorporating the development of problem-solving skills in their own teaching. Most lecturers expressed dissatisfaction with the extent to which their goals were achieved in their teaching. When asked to suggest why these objectives were not being met, some blamed the students for their lack of ability, application or study skills; some blamed the teaching (but of other teachers, seldom their own); and some blamed the system for its lack of support, poor selection of students and the like.

Burroughs-Lange (1996) adopted a case study approach to explore the role perceptions and beliefs about learning of 20 lecturer's drawn from 5 faculties in a large Australian University. She found most of her subjects held limited and even negative views of their students' capabilities. These views were matched with limited views of the students' needs from their study experience. These teachers believed they needed to provide their students with structure, support with their learning, rewards, practical applications of their new learning, flexibility in learning contexts, and sufficient time. While this set of responses could not be described as impoverished, it reflects a simple transmission model of teaching. Few of her subjects had any understanding of a constructivist approach to learning, or of their own contribution to helping students to 'scaffold' their learning on the foundation of existing knowledge.

Another strand of research suggests the beliefs teachers espouse about teaching and learning are not always consistent with their teaching practice. Murray and Macdonald (1997) compared the conceptions of teaching of business studies lecturers with their teaching practice. While a majority of staff saw themselves as either facilitating learning or providing support for their students, their teaching methods demonstrated a preoccupation with imparting information. In a recent qualitative study of a group of six experienced tertiary teachers in a New Zealand institution, Patrick (1998) found that most of her subjects held

learner-centred views and their teaching generally reflected these views. Kane, Sandretto and Heath (2002) recently completed a review of a number of studies on teaching beliefs and practices of university academics. They concluded that research that examines only what academics say about their practice and does not directly observe what they do is at risk of 'telling half the story'. This criticism would apply to the majority of studies we have examined.

2.2.3 Students' conceptions of teaching

The most common way by which institutions assess the quality of teaching is to ask the students. Student Evaluation of Teaching (SET) has been a standard practice in most institutions of higher education, certainly in North America, Australasia and Europe, for many years. The sheer prevalence of SET has contributed to it being one of the most frequently emphasized areas of educational research, particularly during the 1970s and 1980s. In an overview of this research, Dunkin (1997) cited 33 separate reviews of research in the field. Summarising his findings, he concluded that SETs were multidimensional, quite reliable, reasonably valid, relatively unbiased, and seen to be useful by students, faculty and administrators. In spite of the qualified nature of each of these claims, Dunkin (1997) suggested that "a considerable amount of useful information can be obtained from SETs: useful for feedback to faculty, useful for personnel decisions, useful to students in the selection of course, and useful for the study of teaching" (p. 311).

Most institutional SET procedures rely on a structured questionnaire based on theoretical assumptions about the elements that contribute to effective teaching and learning. Another line of research attempts to discover what students consider these elements to be. Commonly, students are asked to complete a variety of instruments asking them to identify qualities of effective teachers. Their responses are then analysed to identify those few factors that account for the greatest amount of variance among the responses. Patrick and Smart (1998) undertook a survey of the small number of studies that had adopted this approach. With few exceptions they found that just two or three factors accounted for most of the variance among students' perceptions of the qualities of effective teachers. Entwistle and Tait (1990) found teaching ability and openness to students; Swartz, White and Stuck (1990) – instructional presentation and management of student behaviour; Lowman and Matthie (1993) – intellectual excitement and interpersonal rapport; and Brown and Atkins (1993) – 'caring', 'systematic' and 'stimulating'. Of the studies they looked at, only Ramsden (1991) identified more than two or three factors: 'provides understandable explanations', 'provides good feedback', 'encourages independent thought', 'being organised', 'stimulates students' interest', 'emphatic to students' needs', and 'sets clear goals'. Patrick and Smart attributed the discrepancy between these findings as resulting from the different measures each research team had used to operationalise their constructs, and to the selection of factors used in the factor rotations. In their own study Patrick and Smart (1998) also found that just three factors accounted for over 40% of the total variance. They labelled these as 'respect for their students', 'organisation and presentation skills' and willingness to 'challenge' their students.

Before we consider the next couple of factors it would be worthwhile to reflect on the close correspondence of the findings from the three sources of research data we have just considered. Whether the source is the research literature at large, the research on teachers' perceptions of effective teaching, or the research on students' perceptions of effective

teaching, the research message is fairly consistent: effective teachers tend to be knowledgeable about their subject, they adopt an organised and systematic approach to their teaching; they are enthusiastic and interesting; they respect their students; and they have high expectations of their students' performance. These findings have informed the work of academic developers since the early days of the profession.

2.2.4 A conceptual model of teaching and learning

We have described three sources of inspiration and direction for academic developers' efforts to improve the knowledge and teaching practice of teachers in higher education: the wider research literature on teaching and learning leading to a range of 'models of good teaching'; a number of studies that have attempted to deduce the attributes of good teaching by studying the beliefs and behaviour of teachers who have been judged to be exemplary; and studies that have asked students for their perceptions of the attributes of effective teaching. Over the past couple of decades, academic developers have increasingly looked to a fourth source of direction for their work.

In recent years, a loose-knit framework of concepts has informed an important line of research and practice in the field of academic development. This framework is founded on four key observations:

- Students go about learning in qualitatively different ways involving either an intention to make sense (a deep approach) or an intention to reproduce (a surface approach).
- Student outcomes are qualitatively different as well as quantitatively different.
- Students vary in their metacognitive approaches and skills but these tend to develop in sophistication over time.
- Teachers vary in their understanding of teaching and learning in qualitatively different ways. All learning takes place in a context that is mediated by the perceptions of both students and teachers. (Biggs, 1994)

These observations have been supported and extended by an emerging body of research evidence that has transformed the way that academic development is understood and practised. The following statements summarise this research and suggest some very strong guidelines for the work of academic developers:

- Students tend to adopt either a deep or a surface approach to their learning (Biggs, 1978; Entwhistle & Ramsden, 1983; Marton & Saljo, 1976).
- There is a relationship between deep and surface approaches to learning and quality student learning outcomes (i.e. deep approaches to learning tend to lead to higher quality learning outcomes and vice versa) (Marton & Saljo, 1977; Prosser & Miller, 1989; Ramsden, 1992; Trigwell & Prosser, 1991).
- There is a relationship between students' awareness of the learning environment they are operating in (course structure, assessment, workload, etc.) and their adoption of surface or deep learning strategies (e.g. if they see the workload as too heavy, or the assessment tasks as encouraging memorisation, they will adopt surface learning strategies) (Ramsden, 1992).

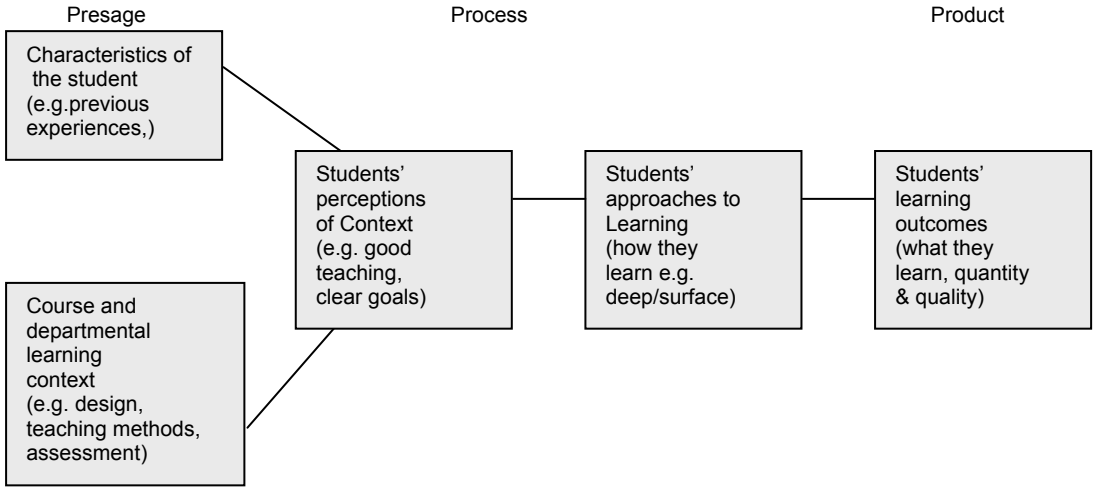
- There is a positive relationship between students' perceptions of high quality teaching and their use of a deep approach to learning (i.e., students who perceive they have received high quality teaching are more likely to have used deep learning strategies) (Prosser & Trigwell, 1991; Trigwell & Prosser, 1991).
- There is a consonant, coherent relationship between teachers' approaches to teaching and students' approaches to learning (Andrews, Garrison & Magnusson, 1996; Trigwell, Prosser & Waterhouse, 1999).
- Teachers' approaches to teaching are related to their previous experience and conceptions of teaching and learning (Trigwell & Prosser, 1997).
- Teachers can influence students' approach to learning by changing the learning contexts within which students work (Kember & Gow, 1993).
- Changes in teachers' approaches to teaching may require changes in how they experience or conceptualise teaching (Trigwell & Prosser, 1996).

In a comprehensive synthesis of this research, Prosser and Trigwell (1999) suggested student learning needs to be the focus of good teaching, not the teaching activities of teachers. They argued that "good teaching is about bringing the teachers' perceptions and understanding of learning and teaching … into closer relationship with their students', and that good learning involves a focus on the meaning and understanding of the material students are studying" (p. 11). They suggested good teaching is about three things:

> *First it is about teachers developing a coherent and well-articulated view of what they are trying to achieve and how they are planning to achieve that outcome. Second it is about teachers discovering the variations in the way students perceive that planned learning context. And third, it is about working towards bringing their students into relation with, and understanding of, that articulated view.* (p. 11)

This approach to learning and teaching has been variously described as the 'student learning' approach, the 'presage-process-product' model of student learning, and the 'constructive alignment' approach (see Figure 2). The first of these descriptors simply draws our attention to the primary focus being on student learning rather than on teaching. The second refers to the various factors making up the student-learning environment as indicated by the following table. And the third focuses on the need to ensure the consistency and relationship among these various factors. Biggs (1996) is generally credited with first promoting the idea of 'constructive alignment', but the concept has since been taken up by the academic development community as a useful collective label for this whole approach to learning, teaching and academic development.

Figure 2: Presage-process-product model of student learning, adapted from Dunkin, M.J. and Biddle, B.J. (1974) *The Study of Teaching*, New York: Holt, Rinehart and Winston



2.3 Proposition 2: Through a variety of academic development interventions, teachers can be assisted to improve the quality of their teaching.

We have noted that, for a variety of reasons, virtually no studies have even attempted to measure the impact of academic development programmes for teachers on the learning outcomes of their students. We have suggested that our best hope of assessing this link is to see it as a two-step relationship and to study the separate research evidence for each of these steps. We have taken an overview of the research on the links between teaching and learning, and in particular, at the ways in which this research has informed and guided the practice of academic developers. We shall now take a closer look at the research evidence on the impact of academic development programmes on teaching practice. We shall do so by examining the research evidence on the effectiveness of the various approached academic developers have commonly adopted in their efforts to influence the behaviour of teachers.

Before we examine the research evidence we need to make some observations about this field of research. First, we shall discuss the various ways in which the outcomes of academic development may be studied. Second, we shall consider the field as a whole, and in particular the limitations of the research evidence. And third, we shall consider the modes in which academic development takes place and indicate how these have informed our selection of sub-propositions.

2.3.1 Measuring the impact of academic development

In the first review of this literature, Levinson-Rose and Menges (1981) used five categories to analyse the research findings on the effects of programmes of academic development:

- Teacher attitude as measured by self-report. In these studies, the trainees or participants express their opinion as to the effectiveness of the programme of academic development they have experienced.

- Teacher knowledge from tests or observation of knowledge. In these studies pre- and post-tests would be used to measure the growth in teacher's knowledge about the matters covered in the training programme, or some form of direct observation would establish this growth in knowledge and skills.
- Teacher skill from observation. Here the data would be derived by direct observation of a teacher demonstrating new skills and knowledge in the teaching context.
- Student attitude from self-report. Here students provide feedback on their teachers' performance generally by way of a standard assessment process, but sometimes by a more intensive and less structured interview process.
- Student learning from tests or observer reports.

Levinson-Rose and Menges (1981) acknowledged that this set of categories represents a hierarchy of evidential strength. The strongest evidence for the effectiveness of academic development is its impact on student outcomes. Next strongest, and contrary to many teachers' views on the reliability of this source, is the students' assessment of their teachers' effectiveness. Indications that a teacher is actually applying new skills and understandings in the classroom teaching is clearly strong evidence for this component of the causal relationship, and stronger than measures of teachers' acquisition of knowledge from their training programmes. The weakest indicator, yet the most common form of evaluation adopted by the academic developers themselves, is the feedback that trainees provide concerning the value of their training.

In a review of the effectiveness of 'instructional interventions', Weimer and Lenze (1997) adopted these same five categories. Most recently, in a review of research on the impact of educational development programmes, Kreber and Brook (2002) endorsed these categories, though they suggested a sixth category for "effects on the culture of the organisation". We have opted to use these categories as well. This means that more importance will be accorded those studies that use student-based measures of effectiveness, or observation of teaching practice, than those that rely on measures of teacher perception, knowledge or behaviour.

2.3.2 Research and evaluation of academic development

Academic developers have been acutely aware for more than a quarter of a century that their efforts to evaluate the effectiveness their efforts have fallen short of any acceptable standard of evidence. Gaff (1975, p. 4) warned that unless academic developers were able to demonstrate the results of their efforts in terms of student outcomes or staff satisfaction, their very livelihood would be at risk. Reviewing the evaluation literature in the intervening quarter century, Kreber and Brook (2002) noted that while there was no shortage of models and guidelines for undertaking such work, there was a remarkable shortage of published studies that employed a systematic and rigorous approach to evaluating these programmes in terms of outcomes. They even concluded that "actual examples of educational development activities are harder to find than suggestions on how to conduct them" (2002, p. 99). Summarising a survey Kreber had conducted of academic development programme evaluation practices across Canada, they concluded *inter alia*:

- *the most frequently evaluated aspects of training programmes were workshops, and many aspects were not evaluated at all*
- *few reported assessing programme impact*
- *assessment of possible changes in staff's beliefs or student achievement were the least common practice*
- *lack of time, money, and staff were the most frequently cited factors preventing systematic evaluation.* (Kreber & Brook, 2001, p. 97)

Many other scholars in this field have made similar observations. Weimer and Lenze (1997, p. 235) lamented the fact that most evaluations were limited to collecting and summarising the self-reported attitudes of trainees. They called for more research on the impacts of academic development; for better designed research; for different kinds of inquiry; and for research on instructional interventions that is derived from theoretical or conceptual bases (pp. 324–237).

The limitations and shortcomings of the published research have seriously compromised our attempts to identify 'best research evidence'. Most of the 'outcomes' studies we have been able to locate focus on participants' reports rather than on more rigorous measures of outcomes; their research designs tend to be flawed, calling into question the acceptability of their claims; and they have been conducted by the academic developers on their own practice, generally working under conditions of limited resources and other institutional constraints.

Another factor that seriously compromises the reviewer's task is the fractured nature of the scholarly literature and discourse on academic development and its outcomes. Rowland (2001) noted the lack of a common pedagogical theory among academic developers. This means people concerned with similar pedagogical and organsational challenges are likely to address these challenges from many different theoretical perspectives and share their views in many different publications. He illustrated this point by noting that in two recently published reviews of the literature of higher education teaching and learning (Entwistle, 1992; Barnett, 1997) there was virtually no overlap between the dozens of references cited by each author. If two leading British authorities on learning and teaching in higher education can draw on such disparate sources, and fail to engage with or acknowledge each other's arguments, it is hardly surprising that academic developers with more limited opportunities to study the field as a whole will tend to draw their intellectual inspiration from even more restricted sources.

2.3.3 Modes of academic development and their outcomes

Analysing academic development in terms of methods of programme delivery is likely to have its limitations. In metaphoric terms, it is something like studying an act of communication by assessing the quality of the envelope, the writing paper and the handwriting rather than by analysing what the writer has written. Nonetheless, academic developers and their policymakers and funders are intensely interested in learning which methods of academic development actually make a difference, and in what situations. In an era when academic developers were being encouraged to devote most of their efforts to conducting short courses for their academic colleagues in teaching skills it was important to assess how effective this training was. Or, more recently, as academic developers steer the sector towards policies of mandatory teacher training and accreditation of academics, it is vital these methods can be shown to be effective.

We have looked to two earlier reviews of the research evidence on instructional interventions for a set of categories with which to study the research on effects (Levinson-Rose & Menges, 1981; Weimer & Lenze, 1997) but adapted these to take account of new developments in the field. We shall use the following categories to study the research on modes of academic development interventions:

Short training courses

Workshops, seminars and training programmes comprise a large proportion of the work of most academic development units in higher education. In fact, these three comprised one of the categories employed by the two reviews just mentioned (Levinson-Rose & Menges, 1981; Weimer & Lenze, 1997). We consider the key distinguishing element of most of these courses is that they take place outside the participant's normal work context or that the training does not actively engage the primary work group of which the participant is a part. Commonly, participants are selected, or opt, to attend some form of training; this generally takes place in a separate part of the institution from their regular work place; participants will often be from throughout the institution rather than exclusively from a single work unit; and there is seldom any structured or systematic follow-through once the participants have returned to their work units.

These programmes vary enormously in length and the research evidence seems to suggest that length does matter. We have modified the system used by Weimer and Lenze (1997) and have used the following sub-categories to review the evidence: short courses extending from 1 to 2 hours up to 1 week of full time study; and more extended programmes. These latter will extend from single credit-level courses that may extend across a semester of part-time study through to full programmes of study leading to certificates, degrees and diplomas. Many of these longer courses incorporate teaching interventions and supervised practice, and some may form an important component of a programme of teacher accreditation. But the defining feature of these programmes is that they take place apart from the day-to-day work of the unit. We shall be examining the research evidence on the outcomes of short and extended programmes under two headings: 'Short training courses' and 'Intensive staff development'.

In situ training

Another important focus for the efforts of academic developers is the academic working group. In this mode academic developers engage with an entire academic work group and build a development programme on the activities and objectives of that particular group. Many of these programmes will define themselves only loosely as academic development or training, and there are a number of models informing such initiatives. These would include the establishment of 'learning communities', 'quality learning circles' or 'reflection on practice'– just three structured approaches to establishing a culture of professional inquiry and discourse within a work group. At an even less structured level, these might include the efforts of a consultant to assist a group of teachers to review and improve their teaching and learning programmes.

Consulting, peer assessment and mentoring

Teaching is an individual and often idiosyncratic activity. One way to observe and change that practice is to provide targeted, one-to-one support for teachers to help them reflect on their current practice, consider alternative ideas and methods, trial new ways of teaching, and then review the results. Boud and McDonald (1981) described three types of consultancies: the professional service model where the consultant provides organisational or technical expertise; the counselling model where the consultant assists the teacher to articulate and find solutions to their own problems and challenges; and the collegial model where the guidance is provided by a peer.

Student assessment of teaching

A huge effort is being invested in assessing the quality of teachers and teaching. Much of this is gathered by way of regular course evaluations completed by cohorts of students. There is an important body of research evidence that considers the effect of this feedback, particularly when it is mediated by some form of advice and supervision.

Intensive staff developement

At the beginning of this section we acknowledged the limitations inherent in analysing academic development in terms of modality. One body of research literature that fits only awkwardly into this set of categories concerns the conceptual approach to academic development that emphasises the support of student learning rather than the delivery of teaching. This approach could in principle inform any of the five modes of academic development we shall be studying. However, it is employed most commonly in intensive programmes of academic development and we shall focus our attention on this impact of these conceptual approaches in this section.

2.4 The Research Evidence

2.4.1 Short training courses

Weimer and Lenze (1997) cited six reviews or multi-institutional surveys on the incidence of short courses. These studies consistently reported that most institutions relied on withdrawal course as their major form of academic development. Most of these seemed to fall into our ‘short course’ category.

Weimer and Lenze began by looking at the research on very short courses – those lasting half a day or less. But, in spite of the high incidence of such courses throughout higher education, they found little published evidence of the continuing effectiveness of such programmes using any of the five categories of evidence they employed. Turning their attention to somewhat longer courses, Weimer and Lenze (1997) found just two studies from the 1980s that provided any compelling evidence of course effects beyond the self-reports of the participants. These studies assessed improvements in teachers’ knowledge about lecturing as judged by independent observers (Brown & Daines, 1983) and demonstrated classroom skills following training (Long, Sadker and Sadker, 1986). In both cases significant improvements were observed. Another study by Gibbs, Browne and Keeley (1989) was less positive. They reported on a programme designed to teach faculty critical thinking skills. The programme called for participants to attend six 4-hour programmes, create a plan for integrating these

new skills in their teaching during the following semester, share this plan with other participants, and cooperate in evaluating the success of their efforts. Participants were assessed on their use of critical thinking with a couple of standardised instruments both before and after the programme. The study failed to find a significant difference between the post-intervention results of the experimental and control groups.

Both Menges et al. (1988) and Weimer and Lenze (1997) concluded that the research evidence to support the impact of short courses on teaching practice was very weak. Most programme assessments occur at the level of the participants' attitudes following the courses, with very few studies even attempting to measure the longer term influences on attitudes, knowledge or practice. We identified just two weel-designed studies that had not been the subject of published syntheses.

Rust (1998) found a similar paucity of evidence in the United Kingdom about the long-term effectiveness of short courses. He located just two studies that attempted to study the longer term impact of such courses. Rust's own study of the impact of training workshops offered by his centre on the subsequent practice of teachers was more promising. Twenty-five per cent of respondents claimed to have changed their practice to either a fair or a great deal, and 89% claimed to have made some changes. Where change was limited this was generally perceived to be because the participants were already practising the skill they had just been taught. Evidence from the telephone interviews backed up the questionnaire responses and in each case interviewees were able to provide specific examples of changes they had introduced following the courses. Interestingly, Rust found a significant positive correlation ($r+.52$, $p<.001$) between responses in the follow-up questionnaire and ratings from the workshop evaluation questionnaire. He also found the participants' indications of their likelihood to change after the workshop were significantly positively correlated with the extent of reported change 4 months later ($r=.31$, $p<.001$). These latter results run counter to the general scepticism about the long-term effectiveness of short courses and may give some comfort to academic developers who continue to devote much of their attention to such interventions (see L'Hommedieu, Menges and Brinko, 1990).

Brew and Lublin (1997) carried out a similar follow-up questionnaire survey of academics who had attended short courses on teaching and learning themes offered by the Centre for Teaching and Learning at the University of Sydney over a 3-year period. They found similarly high proportions of staff claiming to apply the ideas and techniques to which they had been introduced. However, unlike the previous study by Rust (1997), they did not follow up their postal questionnaire to confirm the reported impact on practice.

Given the paucity of well-designed studies into the medium- and long-term outcomes of short courses, it would be dangerous to rely on such interventions to effect significant and enduring change in teaching practice. The evidence provided by Rust (1998) and Brew and Lublin (1997) for the effectiveness of short courses may be promising, but it relies largely on the report of the trainees themselves and is not backed up by very many other systematic studies. However, it is unlikely academic developers will allow this lack of strong evidential support discourage them from using short courses. As Brew and Lublin stated (1997, p. 130), positive feedback from short-course trainees gives trainers "encouragement that their efforts have been worthwhile". Such courses remain a useful way to introduce new knowledge and skills to large numbers of staff, there is some evidence that they may lead to changes in teaching

practice and beliefs, they seem to be generally well-received by participants, and they meet an immediate institutional need at an affordable price.

> ***Proposition 2A. Short training courses tend to have limited impact on changing teaching behaviour. They tend to be most effective when used to disseminate information about institutional policy and practice, or to train staff in discrete skills and techniques.***

2.4.2 In situ training

In the previous section, we saw that academic development is usually managed and delivered at an institutional rather than a work-unit level. Individual members of staff are withdrawn from their work units to undergo some form of academic development with the expectation they will be able to incorporate this new knowledge when they return to their units. An academic's work unit is seen as providing a more appropriate and more effective locus for academic development.

This view has a number of contributing elements:

- The whole purpose of academic development is to help staff become more effective at their jobs. A model of academic development that challenges academics to focus on those jobs is likely to be more effective than one that attempts to separate the two.
- Academics work within shared systems of organisation, objectives and culture. Major changes of work practices are only likely to take place when an entire work group is committed to the change.
- Academics also work within a framework of policy, leadership and resourcing. Effective change and development usually requires the support and commitment of the leadership.

While the logic for a situated learning approach to academic development is strong, such an approach does pose some serious challenges. Probably the biggest of these is to ensure academic development is not simply an excuse for dismantling more conventional approaches to academic development in favour of an unstructured model of 'learning-by-doing' at the work-unit level. To overcome this danger, and to ensure academic development is purposive and genuinely developmental, advocates of this approach have devised a number of process models to shape these work-based development activities.

Depending on the boundaries we set for this subject, these models could include any or all of the following:

- Course team or department-based development projects coordinated and led either by professional academic developers or by the unit staff and leadership themselves.
- Action learning approaches where a group of colleagues meet regularly to reflect on and resolve the problems and challenges they face in their individual work.
- Critical reflection on practice where the members of a work unit engage in a critical dialogue concerning the ends as well as the means of their work together.

- Learning communities where the unit develops the capacity to learn from staff experience.
- Quality learning circles, and other similar approaches from the corporate world, which recognise that a small group of colleagues actively engaged in discussing their work together is likely to be the most effective locus for professional development and change.
- Transformational models of leadership that recognise the key challenge for leadership is to develop a shared vision of change that pervades the work unit and informs the work of its members.

Without claiming to be a comprehensive list of learning-situated approaches, it is clear this approach draws on a wide range of disciplinary bases including quality assurance, management, and more critical approaches, as well that of academic development. To contain the discussion, we shall focus our attention on the literature and research falling more clearly within the academic development literature.

It needs to be acknowledged at the outset that few, if any, research studies show any clear outcomes of such approaches in terms of student learning. Not many studies demonstrate a robust contribution to teaching practice. This is a relatively new focus for academic developers, and the literature of the 1990s was more concerned to develop and debate process models for situated academic development than to test their effectiveness.

Another feature of the literature on this subject is its heavy emphasis on individual institutional case studies. Given the nature of the subject this is probably to be expected. Situated learning projects are by definition context-specific. While it may be possible to derive some general principles about managing such initiatives from the experience of individual projects, it is less likely research will indicate any definitive predictors of outcomes for either staff or students.

There is some tentative evidence to support the focusing of academic development efforts on academic work groups. However, these tend to be one-off, context-specific case studies (e.g. Boud (1997) reporting the experience of individual work units in establishing systems for peer reflection and shared practice. However, it is generally not possible to compare the effectiveness of such approaches with any alternative means that might have been adopted.

Other initiatives have focused on discipline-based academic development. Jenkins (1996) argued strongly for such an approach on the grounds of distinctive disciplinary cultures and specialised concept structures, methodologies and truth criteria. He noted the discrete discipline-based pedagogic literature of most of the subjects represented in higher education but also noted the isolation of such literature from that of mainstream academic development. He urged academic developers to devote more of their resources to working within disciplinary communities**. Morss and Donaghy (1998)** provided an example of this focus. They describe a three-way partnership between their university's Centre for Learning and Teaching, the Department of Physiotherapy, and the clinical stakeholders of the Department. Their objective was to develop teaching and learning strategies that would facilitate reflective practice within the honours physiotherapy programme that would extend beyond the programme into clinical work-based learning. The programme comprised some initial training

workshops, followed by a series of workshops to plan the development of reflective practice, and finally the development and introduction of a framework to assess this reflective practice. Their findings tended to replicate those of several other studies they cited concerning the development of partnerships between central academic development units and subject departments: recognition and understanding of the culture of a department or subject group is critical to the success of such partnerships; careful planning and acceptance of the project by the subject team will by critical; and the developers have to be realistic about the amount of time a busy department will be able to devote to such an exercise.

Ramsden (1998), in a overview of the research, and **Knight and Trowler (2000)**, reflecting on an empirical study of their own, both made a strong case for a departmental focus for academic development efforts, arguing that professional knowledge will always be context-bound, and activity systems at the local departmental level are the central loci for changes in collective approaches to learning and teaching. They also agreed on their general change formula: the central task of departmental leaders is to be a learning manager, to create a culture in which academics feel they have control over their teaching and in which the focus is on learning rather than teaching. They parted company slightly on some of their guidelines for these academic managers. Ramsden advocated a model of transformational leadership where the leader's primary role is the infusion of value and the management of the work culture. Knight and Trowler were uneasy about the managerialist implications of this approach and advocated a model of interactional leadership where the leadership negotiates rather than directs the direction of organisational life.

De La Harpe and Radloff (2000) emphasized the importance of focussing on the development of generic skills to complement the disciplinary knowledge of Business Studies undergraduate students to enhance students' professional skills and future employability. The project at the Curtin Business School over a 3-year period included the integration of professional skills into the curriculum, viz. teaching and assessment of the generic skills. Successful implementation of the project demanded all staff work collaboratively as a team, which was difficult to achieve because of other extraneous demands on staff time and workloads, departmental leadership, the necessity of convincing staff of the need for enhanced quality and for the benefits for their own professional development. The Curtin experience demonstrated that, regardless of external pressures for quality student learning outcomes, convincing and engaging all staff in academic development activities becomes an uphill battle. **Chalmers, Smith and Lamb (2002)**, however, reported on the positive outcomes of engaging staff in an institutional professional development initiative of teaching learning strategies in disciplinary contexts. But while they found staff were applying the new teaching strategies they concluded that further work needed to be done on the impact on students' learning strategies and learning outcomes.

Drew and Vaughan (2000) provided an example of the kind of contextualised professional learning advocated in a study of the work of a fashion design course team over a 2-year period. The data were obtained from the reflective journals of five teachers that had been produced as part of the Staff and Educational Association (SEDA) programme's assessment requirements. To encourage critically reflective thinking, course members met on a regular basis to discuss their teaching in course or discipline groups. This case supported the claim of Knight and Trowler (2000) that:

> *...where departmental members work together on teaching improvement, programme design, assessment review, or on finding ways of encouraging learner autonomy, then contextualised professional learning will occur.* (p. 80)

Drew and Vaughan found evidence of professional learning from this process for individuals, the course team, the learners and their college. The evidence is provided by way of enhanced understanding and practice.

'Action learning' has much in common with contextualised learning. Deriving from the work of Reg Revans, action learning is a structured approach to learning from action. The key components of action learning are: individuals meet together in a group (known as a set); each individual brings to the set a real issue or problem from their practice; the whole set works on the problem with the individual to arrive at a course of action. Zuber-Skerritt (1993) advocated the improvement of learning and teaching through action learning (learning in groups and from one another) and action research (collaborative enquiry into educational problems). **Kember (1998)** described the successful implementation of over ninety action-learning projects at eight higher education institutions in Hong Kong; information we can replicate in other contexts. Similarly, **Bourner, Cooper and France (2000)** described widespread use of this approach both in teaching and staff development at a British university.

'Reflection on practice' is another variant on contextualised learning. Drawing on the seminal work of Argyris and Schon (1978), staff developers and teacher educators now almost universally recognise that reflection on practice is a critical element in professional learning and development. **McLean and Blackwell (1997)** described a programme that incorporated reflection on practice in a training programme for new academic teachers at the University of Keele. The programme is typical of many such approaches to academic development in higher education during the 1990s. The new teachers undertook constant self-assessment, their teaching was observed by other participants and by a mentor, and they were evaluated by students. A teaching portfolio was produced at the end of the programme that, along with a mentor's report, formed the basis of assessment by a panel of assessors. McLean and Blackwell found the portfolios demonstrate a congruence between espoused theory and theory-in-use. They also found a good match between the student evaluation of teachers, the mentors' reports and the records of observation of teaching.

A particularly powerful example of reflection on practice in academic development is the work of **Macdonald** from Monash and latterly Swinburne University of Technology **(2001)**. Macdonald and colleagues began their project with a 3-year collaboration with staff from two departments of the Faculty of Computing and Information Technology at Monash. Using a model of guided reflection on practice through regular meetings of teaching teams, the project succeeded in improving the learning outcomes of students and had a major effect on improving the teaching skills and motivation of the staff involved. This project evolved into a series of ongoing 'teaching communities' where a group of staff responsible for teaching a subject or programme met on a regular basis to discuss student learning and good teaching. To be effective these communities needed to have a shared understanding of a set of basic principles relating to good teaching and learning, to be supported by senior management, to include a broad cross-section of teaching staff, and to meet regularly. The outcomes of these efforts were impressive. Participating staff reported an increase in their satisfaction from

teaching. Curriculum development was undertaken from first principles and in an integrated manner, rather than incrementally, as had been the case before. There were significant improvements in teaching practices, with doubling and trebling of student engagement measures during a semester. With the emphasis on teaching conceptual understanding and assessment weighted to reward students who can apply conceptual knowledge, there was a shift in the style of learning students chose to use. Students acknowledged this shift and expressed appreciation of it. Macdonald reported that student assessment outcomes showed students had acquired a good conceptual grasp of their subject, but conceded that the lack of previous conceptual testing did not allow a direct comparison.

Barrington (1999) and **Sheard and Hagan (1999)** described similar community teaching approaches for tutors at the Universities of Auckland and Monash. Tutors beginning their teaching careers are enthusiastic and keen to enhance their teaching skills. At Monash an intensive 3-day training programme followed by weekly meetings gave tutors a feeling of ownership over the teaching of introductory subjects. They had the opportunity to reflect on the lessons learned in the training sessions and to share suggestions for ways of teaching. From the feedback received, tutors' level of confidence in their ability went up although commitment to the programme dwindled in its second iteration. This may be due to tutors' professional development needs having been met after the first programme implementation.

McKenzie (1998) described a similar attempt to improve teaching practice through the use of 'teaching enhancement teams'. She described three projects undertaken at the University of Technology, Sydney, during the 1990s. The first project brought together groups of 'exemplary' teachers to share best practice and create a teaching lead group within the university. The evaluations of this project were mixed: while these exemplary teachers had been able to share best practice among the group, their success in disseminating this practice across the university was limited. The second project involved the use of teaching enhancement groups to improve the quality of sessional teachers. Again the results were mixed: participants considered they had learned more about teaching and enjoyed the collegial nature of the training groups; but few of the participating schools continued their involvement after the initial training programme. The final project brought together a group to focus on flexible learning. Again, the short-term results were beneficial in terms of participants' perceptions of improved knowledge, but the group did not continue after the initial workshops though this had been an objective of the academic developers.

Few of these cases cited from the research are able to demonstrate a strong and reliable link to student outcomes. Nor do many of them demonstrate long-term survival. But most are able to show a high level of satisfaction from the participants, a significant change in the attitudes and skills of participants, and a strong belief on the part of the champions that this represents a valuable form of academic development. On balance, the research indicates support for the following proposition:

> ***Proposition 2B. In situ training. The academic work group is generally an effective setting for developing the complex knowledge, attitudes and skills involved in teaching.***

2.4.3 Consulting, peer assessment and mentoring

The third major way in which institutions seek to support the academic development of their teaching staff is by direct one-to-one 'instructional consultation' either by specialist developers or by colleagues. Weimer and Lenze (1997) described three alternative models for defining this relationship: the Professional Services Model where the consultant brings professional and technical expertise to the consultation; the Counselling Model where the consultant assists the teacher-client to identify and resolve the task facing them; and the Collegial Model where two peers serve as consultants for one another. They acknowledged that in practice the models are not well defined, and academic developers increasingly draw on the strengths of all three models to inform their work with teacher-clients.

Numerous studies point to the prevalence of consultation as a common and even valued form of academic development. Weimer and Lenze (1997) found all but one of the institutional surveys of academic development practice published during the 1980s reported consultation as an important component of this practice. Piccinin (1999) reported a similar finding for the 1990s.

Far more problematic is the question of whether these consultations actually lead to improved teacher effectiveness. Most evidence is at the attitudinal level. Centra (1978, cited in Weimer and Lenze (1997)), for instance, found that 56% of the college coordinators who were surveyed perceived classroom visitations and feedback on teaching to be effective, while Moses (1985) found 17 directors of academic development units in Australia ranked instructional consultation among their three most effective ways to improve teaching.

Stanley, Porter and Szabo (1997) and **Piccinin (1999)** carried out two of the very few systematic attempts to assess the impact of individual consultation on enhanced or improved teaching practice. Stanley et al. conducted a telephone survey of 227 staff at two large American universities in Ohio and Texas to assess the outcomes of the staff developer-staff consultation process, priority skills for staff developers, and the characteristics of an effective consultation process. Overall about 80% of staff rated the improvement of teaching highly. They considered improved student evaluations as the second most important factor. With regard to the skills of staff developers, their ability to give constructive feedback on teaching was rated highly, followed by skills with regard to the evaluation process. Finally, staff considered the focus on their needs as teachers as most important to the consultation process. Surprisingly, low rankings were given to the opportunities for follow-up and the production of quality teaching materials (outcomes), to effective communication and listening skills (skills), or to discipline-specific consulting (process). What this exploratory study demonstrates for us is that it would be unproductive and ineffective to standardise the consultation relationship in terms of outcomes, skills and/or process.

Piccinin (1999) tracked the 165 faculty members who had made use of the consultation services of a single Canadian university over a 7-year period. Of this number he included only the 91 who sought consultation to improve their teaching and for whom standard student ratings were available both preceding and following the consultation. Interventions fell into three categories: those involving an interview with the client leading to feedback and advice on possible improvements; those involving the foregoing plus observation of the client-teacher in the classroom followed by further feedback and advice; and finally all the foregoing, plus direct student feedback on the client-teachers performance mediated by the

consultant. Individual consultation ranged from a single interview to one or more of the following: classroom-teaching observations, videotapes of lectures, consultation with students, and feedback from the consultant. Piccinnin found teachers who underwent all three groups of intervention experienced a significant and sustained improvement in their student ratings, although curiously the improvement experienced by the group undergoing the briefest consultation was a delayed one.

Piccinnin's research highlights a recurring theme in the research evidence on instructional consultation: consultation appears to be most effective when it assists teachers to interpret and reflect on feedback on their own performance. It is on the basis of this feedback and reflection that significant changes in understanding, knowledge and behaviour are made. Rather than continue this examination of the very broad field of consultation, we shall proceed to study the substantial body of research on feedback and the ways in which it is incorporated within a consultative approach to academic development.

Wilson (1997) reported on a study in which a large group of university teachers were given feedback on their teaching performance over an extended period of time. The study was designed to determine whether informing staff about good teaching ideas before and after obtaining feedback from students would improve their teaching. The results indicated there is an overall improvement of teaching as a result of consulting.

Bell (2001) described a successful structured peer-supported teaching development programme at the University of Wollongong in Australia. The 28 teachers from the 1997 and 1998 programmes chose a support colleague to observe and provide feedback for four cycles of teaching, at the end of which they reflected on what was learned, the effectiveness of the process, personal strengths and areas for development. The results indicated more than three-quarters of the participants found the process was effective in developing ideas and teaching skills, making improvements to teaching practice, developing participants confidence and congruence of espoused theories of teaching and teaching-in-use, developing collegiality, and their ongoing professional development. Bell identified that a challenge exists when the feedback is positive and no areas for development are identified. A programme of 2 years may also be too short to develop adequately the reflection and teaching skills of staff.

MacKinnon (2001) described the University of Melbourne experience of a three-step approach to giving feedback. She critiqued the use of observational feedback indicating there can be improvement of university teaching long term only if the feedback is supportive, educational and developmental. In a similar study, **Martin and Double (1998)** reported the findings of a pilot study conducted in the Chemical Engineering Department at a British University in 1995. Although the impact on teaching skills was positive, the use of peer observation and collaborative reflection needs to be complemented by other measures that would contribute to enhancing teaching skills.

McAlpine and Harris (2002) developed a useful framework for evaluating teaching effectiveness. Their literature review resulted in seven major categories that could be used to define teaching: subject matter expertise; design skills; delivery skills; management skills; mentoring/supervision; personal and professional development; and departmental development. Criteria for each category were developed and various sources for evidence were suggested. Within each category artefacts might be reviewed to evaluate teaching

effectiveness. The teaching portfolio may be used to provide the evidence for the various categories. Evaluation standards can range from 'acceptable', 'very good' through to 'exemplary'.

The evaluation of teaching based only on the feedback obtained from students has been criticised as an imperfect and not totally reliable indicator of teaching quality. **Macalpine (2001)** at the Hong Kong Polytechnic described the development of the Teaching Evaluation Index, which comprised a weighted sum data from student feedback questionnaires, in class peer evaluation and teaching portfolio quality. When used on their own, each indicator had limitations, but used together they resulted in a reasonably reliable indicator of teaching effectiveness.

In contrast to the findings in the preceding studies on the impact of peer review on teaching, **Bernstein, Jonson and Smith (2000)** provided a critique of a peer review project conducted at the University of Nebraska over a 3-year period. The project was based on the 1994 AAHE Teaching Initiative, which included representatives from 12 universities. The study supported the assumption that peer review influences student learning only indirectly while instructional practices have a more direct effect on learning. The uneven results obtained may be because the staff who participated were not all novice teachers. Alternatively, the results could suggest the impact of student feedback on teaching practice will be limited unless there is an institutional expectation that teachers will take this feedback seriously.

Merely providing academics with information about their teaching may not be sufficient. In a study of the research literature on this subject, Hendry and Dean (2002) found that unsupported feedback does not necessarily lead to improvement. They concluded that there are no systematic analyses of how higher education institutions improve teaching, and suggested academics should revisit the issue of what constitutes good teaching and should make explicit their theories of teaching, thereby demonstrating accountability for teaching improvement. In this way a culture for teaching excellence would be encouraged and sustained.

Another commonly used method for gathering information from students is the SGID (Small group instructional diagnosis). This technique involves a colleague or academic developer conducting a semi-structured interview with a group of students about another teacher's performance and then providing feedback on their perceptions. The interview questions focus the discussions on both the positive aspects of the teacher's performance (what works well and enhances student learning) and the negative (what hinders learning), and allow both students and interviewer to make constructive suggestions for the enhancement of the teaching and learning. A study by Coffman (1998) analysed the comments from another 60 SGIDs from six schools across various disciplines. The goal of the study was to determine how the various disciplines reported the positives, negatives, and suggestions for change. The findings revealed that every school was different in their nomination of areas of greatest concern. Students tended to note many more positive than negative points or suggestions for improvement. Another important finding relevant to our study was that teaching techniques were of greatest concern to students. These two findings may suggest this form of targeted feedback on teaching performance is likely to be more effective than the provision of generic advice and training on teaching techniques.

Another form of collegial support for staff to enhance their teaching skills is mentoring. In their paper Blackwell and McLean (1996) examined the literature relating to mentoring. Despite mentoring being quite commonplace at many British institutions there was little evidence of its effectiveness. As in the provision of *in situ* training programmes, there have been few comprehensive studies on the impact of consulting, peer review and mentoring on improved teaching and learning. Nonetheless, the research evidence gives moderate support for the following proposition:

> ***Proposition 2C. Teachers can be assisted to improve the quality of their teaching through obtaining feedback, advice and support for their teaching from a colleague or academic development consultant.***

2.4.4 Student assessment of teaching

The most pervasive and extensively used way of assessing the effectiveness of teaching is through the mechanism of student evaluation of teaching (SETs), or student rating of teaching, as Cashin (1988) suggested it should be termed. The process of student rating of instruction was introduced in the US in the mid-1920s (d'Apollonia & Abrami, 1997, p. 1198). The literature and research related to the student rating process produced in the 70 plus years since its inception has been extensive and in turn has been subject to a large number of studies and reviews; (Abrami et al., 1990; Arreola 1995; Braskamp & Ory, 1994; Cashin & Downey, 1992; Centra, 1993; Cohen, 1981, 1993; Costin and Menges, 1971; Doyle, 1983; Dunkin & Barnes, 1986; Feldman, 1976, 1977, 1978, 1979, 1984, 1988, 1989a, 1989b, 1990, 1992a, 1992b, 1995, 1997; Franklin & Theall, 1990; Kulik & McKeachie, 1975; McKeachie, 1977, 1987; Marsh, 1984, 1991a, 1991b, 1997; Marsh & Dunkin, 1997; Murray, 1983, 1997; Scriven, 1988; Theall, 1994).

A large proportion of this literature has focused on exploring the validity and reliability of student-rating processes as measures of teaching quality. Much is critical of some of the uses to which SETs are put, particularly when they are used to make summative judgements affecting teachers and programmes. This literature does not directly affect the use of student evaluations of teaching for teaching improvement, and has not been analysed in this synthesis.

A much smaller proportion of the empirical studies conducted has addressed issues related to the value of the ratings data in bringing about teaching improvement, and by inference, improved student learning (Murray, 1997; Saroyan & Amundsen, 2001). An even smaller number of studies links teaching development activities to changes measured by student ratings. It is these studies that form the focus for this synthesis.

Cohen (1980) undertook the first major study that showed student ratings could provide a measure of the impact of focused interventions. His study was a meta-analysis of 22 studies and demonstrated that for teachers who undertook student ratings both halfway through and at the end of the semester, those that received feedback following the initial rating showed enhanced ratings at the end of the course and, by inference, demonstrated more effective teaching. Cohen's findings showed that instructors who did not receive feedback from the mid-semester rating were rated on the 50^{th} percentile at the end of the semester. Those who received a rating only (and no feedback) were rated on the 58^{th} percentile, while those who

received a rating and received feedback in the form of a consultation were rated on the 74th percentile.

Cohen (1981) followed his 1980 study with a meta-analysis of 41 studies reported on student ratings data from multi-section courses (the same course taught in sections by different teachers). Analysis of these data showed a positive correlation between student ratings and student results, with the correlation between overall student rating of the teacher and the examination score at .43 and the correlation between the examination score and the overall course score at .47. This is generally accepted as a moderate to high correlation. Cohen concluded that students learnt more from those teachers who were more highly rated.

One of the more significant reviews of SETs was that conducted by Dunkin and Barnes (1986) for the *Handbook of Research on Teaching*. In their review they noted that "Student evaluations of teaching are useful to the extent that they assist in improving teaching, lead to better informed decisions about careers of personnel, and help students to make suitable choices of courses and teachers" (p. 771). In discussing whether student ratings had been shown to be of value in improving teaching they suggested this would be evidenced by "changing the behaviour of teachers in ways that are consistent with criteria for teaching effectiveness" (p. 772). They suggested research into whether student ratings improved teaching effectiveness was a two-step process that needed first to look at the impact of student evaluation on teaching processes and then look at the effect of the changed teaching processes arising from the ratings data on the criteria identified as indicating enhanced teaching effectiveness, specifically improved student learning and improved ratings. The view of Dunkin and Barnes was that much of the research omitted the intermediate steps and essentially focused on the relationship between student ratings and the outcomes, ignoring the impact of how or even whether the ratings were instrumental in initiating the change. In their terms, they said the research was of the "presage-product" type and ignored the processes involved.

L'Hommedieu et al.'s (1990) paper presented the results of a meta-analysis of 28 studies reviewing the feedback college teachers received from the student rating process. The emphasis of this paper was to respond to the call by Dunkin and Barnes (1986) for more and better research on the effects of feedback from student ratings on teaching processes in order to identify and explore those variables that have a moderating effect on student rating measures. They synthesised 28 studies that met their criteria. These studies showed an average effect size of .342. That is to say, the average teacher who receives feedback from student ratings is subsequently rated at a level reached by only 37% of the teachers who do not receive feedback from their students. This result suggests that while the use of student ratings did lead to improved teaching effectiveness, the gain was modest and seemed not to justify the costs associated with operating a ratings system. The authors found this result difficult to accept. As they noted: "…it seems inconceivable that the opinions of a professor's students can mean so little" (1986, p. 233). Their review looked for factors that impacted on the validity of the measures of the effect of the student-ratings process on instructional improvement. They concluded that ratings feedback is important for both evaluating and improving teaching, but that a great deal more rigorous research in this area was required.

Cashin (1990), following up his summary of student ratings research (1988), identified a series of recommendations for the effective use of student ratings. These recommendations

were synthesised from the major reviews undertaken in this area and clearly indicated a number of critical dimensions to the use of student ratings for improvement of teaching:

- Using multiple sources of data and not relying solely on student ratings.
- Clearly defining the purposes for the use of student ratings.
- Carefully selecting appropriate items.
- Ensuring reliability within the rating process.
- Reducing or eliminating bias.
- Being cognisant of the differences in ratings associated with different course levels and disciplines.
- Incorporating diagnostic items to enhance improvement.
- Ensuring the system is interpretable (but not over interpreted).
- Ensuring there is flexibility in the choice of items is important for improvement.
- Ensuring administration procedures are fair and consistent

Reviewing the literature related to the impact of consultation in association with student rating data, Weimer and Leinze (1997), noted that Levinson-Rose and Menges (1981) had identified significant improvements in student ratings associated with a consultative intervention with an academic developer or colleague. They also noted that Murray (1983) had found a similar effect. These outcomes were also identified by Ward (1986), and Stevens and Aleamoni (1985). Marsh and Dunkin (1997) examined the broad range of purposes identified for using student-rating data. The Marsh and Dunkin study is a rigorous synthesis of the key research undertaken in this field. Of particular interest is their examination of the impact of student-rating feedback on teaching effectiveness. In their synthesis, Marsh and Dunkin noted that the most widely used purposes for SETs were to provide: (1) diagnostic feedback to faculty about the effectiveness of their teaching that will be useful for the improvement of teaching; (2) a measure of teaching effectiveness to be used in administrative decision-making; (3) information for students to use in the selection of courses and instructors; and (4) an outcome or a process description for research and teaching (p.241).These purposes mirrored those of Dunkin and Barnes in 1986.

In examining the capability of SETs to improve teaching, Marsh and Dunkin noted that in addition to providing a source of extrinsic motivation to improve teaching effectiveness, ratings may also be intrinsically motivating and that staff reported they used the feedback from ratings to improve their own teaching. They noted (p. 304) this reinforced Murray's (1987) findings regarding how student ratings improve teaching effectiveness. This was not an empirical study, although it did provide information based on the views of staff in seven universities who were asked about the use of student ratings as a teaching improvement tool; 80% of the respondents indicated they thought student ratings affected their own teaching. Marsh and Dunkin noted that the most robust studies showing student ratings used to improve teaching effectiveness are those that replicate Cohen's 1980 study by incorporating consultation in association with the rating. However, they also noted that the impact of consultation without an accompanying student rating had not been resolved, and cited a personal communication from McKeachie (9 April 1991) that indicated consultation without

student ratings was virtually as effective as with student ratings. However, from his own analysis of the available research evidence, McKeachie (1997) affirmed that better feedback enhances the impact of student ratings on teaching effectiveness.

Marsh and Dunkin (1997) suggested that the usefulness of student ratings in relation to enhancing teaching effectiveness has not been well studied, with much of the evidence being anecdotal. They concluded that the literature is at best equivocal and at worst confusing, and that student ratings need to be used cautiously. This conclusion is reiterated by d'Apolonnia and Abrami (1997): "…student ratings should be used to make only crude judgments of instructional effectiveness" (p. 1205). Nevertheless, student ratings do provide an indication of teaching effectiveness even though the link is a confused one. As McKeachie claimed (1997) "There is now ample evidence of ways in which teaching can be improved. The problem is how to get research findings into use."

Major issues to emerge from research into student ratings are the difficulty of assigning a global index as a measure of teaching effectiveness and the associated challenge related to measuring the multidimensionality of teaching. The work of Herbert Marsh (1984) in developing the SEEQ (Student Evaluation of Educational Quality) to evaluate the complexity of teaching has led the way in the development of an instrument that reflects the challenges raised by multidimensionality in student evaluation of teaching. The appropriateness, efficacy and robustness of the SEEQ instrument are strongly argued by Marsh and Roche (1997) who claimed its use on 50,000 classes representing responses to nearly one million SEEQ surveys. In supporting their argument that there is no single indicator of effective teaching, Marsh and Roche suggested the identification of a range of factors and the use of norms enable teachers interpret student ratings data better and lead to more efficient use of the instrument to improve teaching effectiveness, especially in association with consultation. They suggested the feedback from a multi-dimensional instrument such as SEEQ enhances the effectiveness of the consultative process.

In a recent review of the literature on teaching evaluation, Paulsen (2002) noted the dominance of student ratings as a measure of teaching performance and the importance of student ratings in defining teaching effectiveness. He reasserted the broad consensus found in the literature that student rating processes are reliable and valid. A key point in his discussion is his consideration of the distinction between the formative and summative use of student ratings and the importance of the formative use of student ratings for the development and improvement of teaching and learning. He also suggested the relationship between these two purposes is critical and that, as in research, teachers need to be comfortable with the formative use of student ratings in order to enhance the summative use.

Provision of appropriate feedback in a timely, relevant and interpretable manner is a critical to the use of student ratings as a formative evaluation tool in the improvement of teaching effectiveness. Piccinin, Cristi and McCoy (1999) showed the value of consultation when used in association with student rating data. Their study of the impact of consultation on the perceptions and behaviour of 91 professors, showed a clear improvement in teaching effectiveness.

The ability to interpret student-rating data accurately is a crucial step in enabling staff to use such data in the development of their teaching effectiveness. A specific strategy undertaken

and investigated by Ballantyne, Borthwick and Packer (2000) was to develop and make available to staff, resource booklets providing suggestions that addressed the range of common problems identified by student ratings. A study involving a survey and a series of interviews was undertaken to evaluate the effectiveness of this strategy. Although there was a relatively low level of response and possible bias associated with what was effectively 'preaching to the converted', there was a clear indication this was an approach that was worth pursuing.

Misuse, misunderstanding and misinterpretation of student ratings data are, according to Theall and Franklin (2001), major impediments to the use of such data for effective teaching improvement, and do not allow users to make sound decisions. As was shown by Cohen (1980), McKeachie (1987), and Theall and Franklin (1991a, 1991b), a clear indication of an improvement in student ratings (and by inference teaching effectiveness) can result when associated with formative feedback on performance.

A major review by Menges and Austin (2001) clearly showed there is a strong measure of agreement about issues of reliability and validity for student-rating instruments; a view also stated by Kulik (2001). Both these studies called for further research into the way in which evaluation data could be used more effectively to improve teaching. These views echoed those stated earlier, which suggested that to make better use of student ratings, there needed to be strategies in place to facilitate interpretation and to clarify understanding of the process. Franklin (2001) addressed this issue in a critical analysis of the use and misuse of student ratings.

While it was clear from research studies that student ratings can be used to measure the impact of academic development-type interventions, it also became increasingly clear from the literature that a single index does not provide an adequate picture of either the quality of teaching effectiveness, or the extent of improvement. There is a strong move towards the use of multiple evaluative efforts (Stake & Cusneros-Coherron, 2000), reinforced by Theall and Franklin's (2000) call to "Never make the mistake of judging teaching or overall performance on the basis of ratings alone" (p. 51). Menges and Austin (2002) also reinforced this:

> *The body of research about student evaluations is vast, and we find strong conclusions about their reliability, validity and potential utility. Researchers should now turn to new areas, such as investigations about how this evaluative information is used; about how students, colleagues, and administrators can be prepared for their evaluative roles and about the mechanisms by which teacher behaviours affect student learning. (p. 1144)*

The weight of evidence on the use of SETs provides support for the proposition that follows.

> ***Proposition 2D. Student assessments are among the most reliable and accessible indicators of the effectiveness of teaching. When used appropriately they are likely to lead to significant improvements in the quality of the teaching and student learning.***

2.4.5 Intensive staff development

While short courses and workshops were the dominant form of academic development during the 1970s and 1980s, by the 1990s attention was shifting to longer and more extensive programmes of academic development. This trend was prompted by the increasing call by funding and governance agencies for accountability and quality, by the recognition that short courses were unlikely to lead to major and enduring changes in belief or teaching practice, and by developing understanding of the complex nature of teaching and learning. These new programmes tended to be longer, extending over one or more semesters of part-time study, to require students to put their training into practice as part of the development programme, and frequently involved some form of peer mentoring as part of the process. Increasingly, these programmes were contributing to certificates, diplomas and degrees in teaching and learning, and leading to formal teaching accreditation in some systems.

A distinguishing feature of these longer courses is that they tend to be based on some kind of theoretical framework. Gilbert and Gibbs (1998) identified six different theoretical models that commonly inform these more intensive programmes of academic development. The intended outcomes of these programmes will depend on the underlying model and should therefore determine the way in which the programmes are assessed:

- Behavioural change models – that focus on changing the teacher's behaviour in the classrooms
- Developmental models – based on the idea that teachers change their focus of attention over the course of their career, from self to subject to student (passive) and finally to student (active)
- Reflective practice models – that advocate the development of reflective practitioners
- Conceptual change models – that maintain teachers' conceptions about teaching are linked to their teaching intentions and strategies
- Student learning models – that focus on students' approaches to study, and their perceptions of their learning environment
- Hybrid models – that combine elements of several models.

These six categories suggest a fairly complex web of research evidence. In fact, Gilbert and Gibbs' overview of supporting research suggested evidence on the effectiveness of these models is thin and unevenly distributed.

Behavioural change models

Behavioural change models assume that what distinguishes effective from ineffective teachers is their behaviour in the classroom (Gilbert & Gibbs, 1998). This is a well-worked model with a large research literature, most of it drawn from studies undertaken during the 1970s and 1980s. Murray published the definitive synthesis of this literature in 1997. In summary, he found that:

> *While significant correlations between some 'low inference' [readily measured] teaching behaviours and meaningful outcome measures have been identified, these correlations are characteristically small and account for a very small proportion of the variance involved. In other words, while classroom behaviour is what most*

> *student feedback questionnaires judge, it cannot explain much of the variation in learning outcome.* (Gilbert & Gibbs, 1998, p. 4).

This conclusion certainly raised questions about the cost-effectiveness of behaviourally based interventions (such as the use of student evaluation of teaching which we discussed in the previous section). How much should an institution invest in such efforts if the return on that investment is so consistently low? The international academic development community seems to have reached the same conclusion as Murray, and we were unable to find any recently published studies that systematically study the impact of intensive programmes that are based on this model.

Developmental models

The developmental stages approach to academic development has been largely informed by the work of Nyquist (1991). Here the assumption was that with experience and training, teachers would evolve in their primary focus. At the beginning of their careers they tend to focus on their own performance. Once they have achieved a measure of confidence in their classroom practice, they are able to focus on the presentation of their subject. With growing subject confidence they may come to focus on their students, first as relatively passive learners, but later as active learners. We have already considered a number of studies that have explored the difference in focus and approach between novice and exemplary teachers (Ballantyne et al., 1999; Dunkin, 1995; Hativa et al., 2001). The issue here is whether there is any evidence to show that academic developers are successful in accelerating teachers along this developmental path through training interventions. Gilbert and Gibbs (1998) were unable to locate any such studies. Nor were we, though some of the studies we shall be examining shortly under the 'conceptions of teaching' and 'conceptions of learning' models were effectively setting out to achieve the same end.

Reflective practice models

Gilbert and Gibbs' third theoretical model is reflective practice. They looked for studies that demonstrated that teachers who had undergone training in reflective practice were in fact making decisions on the basis of reflection rather than convention, but found none. We have been no more successful in locating intensive studies that have demonstrated their outcomes in terms of changed teaching practice. However, we were able to locate a few '*in situ*' development programmes that had demonstrated promising outcomes and have discussed them in the section on that subject (Barrington, 1999; Macdonald, 2001; McLean & Blackwell, 1997; Sheard & Hagan, 1999).

Conceptual change and student learning models

Gilbert and Gibbs drew a distinction between their final two models that we do not find entirely useful. 'Conceptual change' models are based on the belief that teachers' conceptions of teaching and learning are key determinants of how teachers teach, and indirectly of how students learn. 'Student learning' models shift the emphasis from the teacher to the learner. These models tend to emphasise the learning approach adopted by students, and the way they respond to the various elements of the learning situation such as course materials and systems of assessment. In practice, very few academic developers seem to place themselves exclusively in either camp. Instead they typically embrace both models at the same time –

accepting both that teachers' conceptions of teaching are crucial in influencing their teaching behaviour and that students' approaches to learning are even more critical – and directing their efforts to influence both sets of factors simultaneously. It is this amalgam of objectives that has influenced most of the more systematic and intensive programmes of academic development introduced over the past decade or so, and that is currently contributing to the international pressure to introduce accredited and mandatory programmes in systems of higher education.

We were able to identify some encouraging evidence on the outcomes of intensive programmes of academic development that were informed to a greater or lesser degree by a conceptual change/student learning approach. We shall consider these studies in two groups: the first addressing the longer term and continuing development of academic staff; the second addressing the particular needs of newly appointed academic staff. While this first group of studies conformed reasonably closely to the conceptual change/student-learning model, the second group tended to be more eclectic, drawing on any or even all the models.

We identified six studies from this first group that were able to demonstrate intended outcomes with varying degrees of rigour.

A very recent study by **Gibbs and Coffey (2004)** provides some of the most robust evidence for a link between academic development programmes and a change in the knowledge and behaviour of teachers, and their students' approach to learning. It is also one of the strongest research designs of any studies we have examined in this project. Gibbs and Coffey studied the intensive training programmes of 20 universities in eight countries. Participating universities employed a standard battery of instruments to measure the perceptions of both trainees and their students at various points through the delivery of the programmes. In particular, the researchers were trying to discover whether the primary teaching focus of trainees shifted between teaching and learning over the course of the training, whether their students perceived any shift in their teaching, and whether student's approach to learning changed as a result. They reached the following conclusions:

- training can increase the extent to which teachers adopt a student focus. Without such training teachers may even become less student focussed with time.
- Training can improve a number of dimensions of teachers' performance as judged by students. Without such training, changes are likely to be insignificant or even negative.
- Training can change teachers such that their students improve their learning. Without such training no such positive change in student learning is evident.

An interesting feature of this study is that, regardless of the focus of each institution's programme of academic development, the trends in outcome as measured by the three standard instruments used were common across most institutions. This fact can probably be attributed to the growing influence of a more or less integrated body of knowledge about teaching and learning that has come to underpin most serious programmes of academic development over the past decade or so.

A number of other studies are beginning to corroborate these important findings by Gibbs and Coffey. **Rust (2000)** studied the impact of his long-running programme for newly appointed

academic staff at Oxford-Brookes University. This programme involved weekly training seminars over the first term, fortnightly sessions during the second term, and less frequent meetings/sessions in the third term. Participants negotiated a learning contract with the academic development team, they produced a teaching portfolio, and their teaching was observed periodically by both their tutor and a peer. The programme explicitly espoused the reflective practice model as described by Gilbert and Gibbs (1998), though Rust conceded that most of the other models have also contributed.

Rust's study involved two evaluations. The first consisted of a questionnaire and focus group study involving 34 participants from three cohorts of the course. The second was carried out through guided conversations between 12 members of a training cohort and the researcher following completion of a questionnaire. Participants in the first study reported improvements in their teaching knowledge and skills (32 of 34). Most believed they were teaching better (27 of 34). Half reported greater enthusiasm for their teaching (15 of 34) and greater enjoyment for their work (26 of 34). Most felt they were better at assessment (25) and had a greater range of teaching strategies (29). The findings of the second study were more discursive and presented in narrative form but substantially supported the quantitative findings of the first group. While this study provided very promising results, these were entirely based on the perceptions of the participants themselves. Rust conceded that the study provided no data directly relating to student outcomes. More disappointing, given the use of portfolios and direct observation of teaching as part of the courses themselves, there was no attempt to incorporate data from these sources within the reported study.

A similar, New Zealand-based study is reported by **Haynes (1999).** He studied the impact of the Auckland Institute of Technology Certificate in Tertiary Teaching and Graduate Diploma in Teaching on the teaching practice of staff who had undertaken the programme. Haynes drew on the work of Harland and Kinder (1997), the National Foundation for Educational Research, on the impact of in-service programmes on teaching practice within schools. They identified nine possible outcomes of staff development and grouped them into a three-level hierarchy, postulating that the delivery of all three levels and all nine outcomes is necessary to affect teaching practice in any significant and enduring ways. Haynes then administered a questionnaire that sought to determine the extent to which participants considered each outcome had been met, and also how valuable they considered this programme to have been compared with other influences on their practice. The responses were consistent with the Harland and Kinder model: participants considered all nine outcomes had been achieved through the course and their teaching practice had changed in the directions intended. They also ranked their teacher education programme as the most important influence on their practice, outranking even feedback from their students or guidance from their colleagues. Unfortunately, this study did not extend beyond the self-reported experience of the participants and provided no additional evidence of changes in teaching practice, not to mention changes in student perception or student learning.

Angela Ho (2000; **Ho, Watkins & Kelly, 2001**) described a programme of academic development designed explicitly to change teachers' frameworks for conceptualising teaching and learning. Her evaluation investigated the programme at three levels: the impact on participants' conceptions of teaching; the resultant impact on their teaching practice; and the consequential effects on student learning.

The programme brought about detectable conceptual change or development in two-thirds of the sample group. Subsequently, all these 'changed' teachers received better ratings for their teaching from their students in the year following their programme, while none of those teachers who did not change their conceptions showed similar gains in student rating scores. A resultant positive impact on their students' studying approaches was observed for half the teachers who changed their conceptions.

We identified several studies that explored the ways in which teachers change their conceptions of teaching during academic development programmes. While these tended to provide broad support for Ho's findings, in each case the complexities of the phenomena under analysis tended to overwhelm the methodology. An examination of just two of these studies will illustrate this point.

McKenzie (1999) reported on a recent Australian study in which she explored whether and how teachers' conceptions of teaching change both as a result of academic development programmes and simply through experience. McKenzie was following up on a series of programmes delivered by the Centre for Learning and Teaching at the University of Technology Sydney under the direction of Trigwell. The latter conceded that, while the Centre had been delivering workshops aimed at helping teachers shift their conceptions of teaching from a teacher focus to a student focus, there had been no systematic evaluation of the outcomes or longer term effects of these courses (Prosser & Trigwell, 1997, p. 52). McKenzie made her own assessment of these changes in conceptions of teaching through a series of interviews, assigned them to one of six categories depending on their primary conception of teaching, and then compared these with the teachers' own descriptions of their experiences of change in teaching. Her aim was to identify what it is that teachers focus on when they change their approach to teaching. Half her subjects' (13) descriptions suggested a shift from a simpler to a more complex category. Another nine teachers' descriptions suggested a broadening of their perspective within their original category. On the other hand, all the teachers considered they had changed their ideas and practice of teaching. McKenzie acknowledged the difficulty she faced in assigning teachers to one or other of her formal categories; and the fact her study failed to distinguish between those who had undergone academic development programmes and those who had not reduces its value to our project.

Halliday and Soden (1998) reported on a similar attempt to study the developing conceptions of teaching of a group of tertiary teachers as they underwent a course of professional development. The 11 participants were interviewed at regular intervals throughout the programme, their responses being coded according to a pre-determined set of categories. They too found that most of the participants were able to articulate and apply more sophisticated and learner-centred theories to their teaching with some significant changes of practice reported. However, the authors remained less than convinced by their own research methodology, conceding that reported changes of understanding might have been only temporarily sustained by the power relationships that encouraged them to attend the course in the first place. They suspected that institutional culture, hierarchy, and peer pressure are far more likely to be potent influences on teaching practice than course-based programmes of academic development.

The challenges facing newly appointed staff have long been a focus of attention for the academic development profession. Studies undertaken in Australia, the USA and the United

Kingdom have consistently found that newly appointed staff commonly experience a difficult time adjusting to their new teaching role; they are generally left to their own devices and receive little help from colleagues; they seek more guidance and support; and these needs would best be met through systematic programmes of academic development that extended beyond the conventional short courses in teaching techniques (Martin & Ramsden, 1994).

Boice (1992) interviewed 185 new staff at one university and concluded that the most effective programmes for new staff were long-term measures including both training and development activities and institutional support mechanisms and policies. Strong support from senior management was found to be an important determinant of the success of the programme as measured by the participants' reports of successful adjustment to their teaching role. But while there is no shortage of published studies that describe programmes for newly appointed teachers, and frequently assess their effectiveness by the reported comfort levels of their participants, relatively few studies have systematically explored their contribution to teaching practice or to student outcomes.

Martin and Ramsden (1994) reported on a study of ten courses for newly appointed staff being delivered by Australian universities. The researchers conceded that variety was the most prominent feature of the programmes described and evaluated. The curriculum, delivery methods, support and resource requirements of courses in teaching for new academic staff were all different. This diversity made the task of comparing the effectiveness of the programmes very difficult. While the data did support the conclusion that longer, more integrated courses were more effective than short courses in assisting new staff to accommodate to their teaching roles, the researchers were hard-pressed to identify an approach that was demonstrably more effective than any other. Like a number of other commentators, they seemed to conclude that the level of institutional support for such programmes was a more powerful determinant of their success than the details of the programmes themselves. Another conclusion we might reach from large-scale inter-institutional surveys such as those of Boice (1992) and Martin and Ramsden (1994) is that the devil really is in the detail; that it is not possible to reach conclusions about the effectiveness of academic programmes in general, only academic programmes in particular.

Johnston (1999) reported on his follow-up study of the impact of an award course in teaching in higher education provided for newly appointed staff at Singapore's Temasek Polytechnic. Data from participant discussion groups suggested they found the course to be a positive experience, incorporating useful theory, and prompting them to be reflective practitioners. However, as with Rust's study and most other evaluation studies of similar courses, there was no systematic attempt to gather objective information on changes in teaching practice let alone changes in student outcomes.

These studies, particularly that of **Gibbs and Coffey (2004),** give grounds for cautious optimism that longer, more intensive programmes of academic development can certainly increase the knowledge and skills of participants, and lead them to claim an improvement in their teaching practice. Such programmes tend to be based on a coherent theory of teaching and learning, to run concurrently with the participants' teaching work, to require the application of new skills and knowledge in practice, and to engage the participants in reflection on that practice. Institutional endorsement of these programmes and recognition of

the importance of teaching in workload and reward policies appear to be critical factors in contributing to the effectiveness of such programmes.

While published research draws too heavily on the reported experience of participants, there is a gradual accumulation of research evidence to support the following proposition:

> ***Proposition 2E. Intensive and comprehensive staff development programmes can be effective in transforming teacher's beliefs about teaching and learning and their teaching practice. In particular, teachers can be assisted to shift from a teacher-centred approach to a learner-centred approach, and to align all the elements of the teaching situation in order to achieve positive student outcomes.***

2.5 The Research Evidence from New Zealand and Implictions for Policy

We were able to find just three New Zealand-based research studies exploring the link between academic development and outcomes for teachers or students: Patrick (1998), Haynes (1999) and Barrington (1999). A fourth article, by Kane et al. (2002), while written by New Zealand academics, reviews an aspect of the international research literature. While three articles provide an inadequate basis for policy by themselves, their conclusions are largely consistent with those of the international literature. This should be expected. New Zealand's tertiary education system is modelled on international practice. The academic profession in New Zealand looks to international practice for its norms and values, and New Zealand's academic developers do likewise.

New Zealand tertiary institutions have followed a similar evolution of practice to the rest of the world in their approach to academic development. Institutions only began to take the challenge of academic development seriously in the 1960s and 1970s. Initially, their efforts were largely confined to short courses on relatively technical aspects of teaching. Shortcomings in this approach encouraged developers to engage in programme-based and work group-based training, and in mentoring and consulting approaches. The polytechnic sector introduced a mandatory teacher-training programme during the 1980s, and a decade or so later the university sector is moving to increase the opportunities for their staff to engage in such intensive programmes of teacher development. Student assessment of teaching schemes has been a feature of most institutional quality assurance systems for several years, and institutions are beginning to make better use of the data from these instruments to help their teaching staff improve their practice.

Given these similarities of experience, practice and values, it is reasonable to expect the findings of international research in this field will have broad applicability to our situation in New Zealand. In summary, the research would suggest:

- short courses will continue to make an important contribution to introducing staff to an understanding of institutional systems and policies about teaching and to some of the technical skills involved in teaching;

- working with intact work groups offers better prospects for achieving widespread changes of policy and practice, though it is a more challenging and problematic option for academic developers;
- working with individual members of staff in a consulting or mentoring role is an effective if relatively expensive use of the development resource;
- the return from the investment we are already making in obtaining structured feedback from students on our teaching would be multiplied if we helped teachers learn from that feedback; and
- fundamental changes in teachers' beliefs about teaching and learning tend to come through extensive reflection on practice and exposure to more appropriate models.

Our research was not able to find any studies that addressed the academic development needs of Maori or Pasifika teachers per se, or the academic development needs of tertiary teachers working in a Maori or Pasifika institutional environment.

PART THREE: EFFECTS OF STUDENT SUPPORT ON STUDENT OUTCOMES

3.1 Introduction

This section of the report synthesises literature analysing institutional student support systems and strategies and how they affect student outcomes. These include terms like 'persistence', 'retention', 'completion', 'graduation' and their antonyms 'withdrawal', 'non-completion', 'drop-out', 'stop-out', 'attrition', 'departure'. As with other sections in this synthesis, relationships between support and outcomes are complex and multifaceted – there is no one Best Way. Moreover, individual students and contexts limit the scope of generalisations. "… [I]t is clear that student withdrawal is a complex and often very individualised process involving the interplay of institutional, social and personal factors" (McInnis et al., 2000a, p. 1).

Although Yorke (1999) argued that theory of non-completion is generally underdeveloped, Tinto (1975, 1988, 1993) produced an integrative theory and models of student departure. His 1993 model had six progressive phases: student pre-entry attributes; early goals/commitments to study; institutional experiences; integration into the institution; goals/commitments to the institution; ending in a departure decision. Studies used in this synthesis have tested various constructs of his models. Many aspects have been validated by empirical research. We use two of his phases – institutional experiences and integration – to underpin the framework of this synthesis. In particular we find useful the longitudinal nature of his model and the way he theorises the interaction of personal, institutional and social factors influencing departure decisions. We specifically incorporate in our framework his ideas on academic and social integration as student needs that should be addressed by institutions committed to improving student outcomes.

But Tinto's theory and models are not without critics. Braxton (2000) suggested that critics fall into two broad groups – those who wish to revise and improve Tinto's theories and those who propose entirely new theoretical directions. In our view, those revising Tinto's model retain his integrative intent. This results in an assimilative process, fitting the student to the institution. On the other hand, those developing new theoretical directions abandon integration in favour of adaptation, where institutions change to accommodate diverse students. In particular, we observe an emerging discourse. This explains that students' departure is influenced by their perceptions of how well their cultural attributes are valued and accommodated and how differences between the cultures of origin and immersion are bridged (Berger, 2000; Kuh & Love, 2000; Rendon, Jalomoa and Nora, 2000; Tierney, 2000). While we have used this emerging discourse in our framework, we are aware there is, as yet, less empirical evidence supporting it than supports the assimilative model.

This section of the report assesses the effect of institutional student support on student outcomes. It is divided into three parts. First, an organisational framework is introduced to reflect the way our synthesis of the literature is construed. The framework is based on the theoretical constructs discussed above. Second, we introduce thirteen propositions that

synthesise the research literature. Third, we support each proposition by reference to the research literature.

3.2 Organisational Framework

We have developed an organisational framework for this section of the report. It is not presented as yet another model of student retention, persistence and achievement. Rather, it attempts to synthesise our reading of the student outcome literature. It reports how different learning environments can influence and support student success. It identifies two sets of support variables that seem to impact on student outcomes. One set focuses on the students' social/emotional and academic needs; the other examines ways institutions can support these.

To map our findings we have constructed a two dimensional matrix (Figure 3).

Figure 3: Organisational Framework

Environmental Student Support Influences on Student Outcomes		
Institutional practices that	Support Social/Emotional Needs	Support Academic Needs
Aid integration		
Provide services		
Adapt to accommodate student differences		

The vertical dimension of the matrix focuses on student needs variables which, when supported, enhance student outcomes. It includes two elements – their social/emotional and their academic needs. The horizontal dimension identifies three ways in which institutional policies and actions can support students' success by meeting their social and academic needs. The first two reflect aspects of Tinto's interactive model of student departure: integration describes how student assimilation into an institution will lead to improved student outcomes; institutional services describe how institutions, through their student services, support students' social/emotional and academic needs. The third way identified on the organisational framework describes how institutional values and actions create a learning climate that impacts on learning. It synthesises how institutions recognise, value and adapt to the challenges posed by student diversity. This third way brings together several emerging strands of theory and research. These include catering for the needs of students with diverse cultural capital, cultural practices and learning styles.

This synthesis has identified a number of institutional actions, services, facilities and behaviours that affect student outcomes by supporting or not supporting their social/emotional and academic needs. They are noted in each of the matrix cells in Figure 4. Several of these are not confined to just one cell but feature across both social/emotional need and academic need cells.

Figure 4: Influences on student outcomes

ENVIRONMENTAL STUDENT SUPPORT INFLUENCES ON STUDENT OUTCOMES		
Institutional practices that:	**Support Social/Emotional Needs**	**Support Academic Needs**
Aid integration	Enrolment processes Social networks	Pre-enrolment advice Academic counselling Student/teacher relationships Quality of teaching Academic Success (GPA)
	Orientation/Induction Learning communities	
Provide services	Health & counselling Advisory services Recreational services Campus facilities Placement services	Supplemental instruction
	Peer tutoring Mentoring	
Adapt to accommodate student differences	Absence of discrimination Feeling safe Valuing minorities	Learning preferences
	Cultural capital Fairness	

3.3 Propositions resulting from a Synthesis of Literature

Our synthesis of the literature takes the form of propositions designed to assist policy makers in tertiary institutions to improve student outcomes. Thirteen propositions have emerged from our reading of 146 studies of which 78 were primary sources. These are numbered from 3 to 15 as they continue the numbering from the academic development propositions. Each has emerged from one of the cells in our organisational framework. We have tested each proposition by examining the specific literature pertaining to it. This testing of the propositions becomes the major focus of the next section of the report. While some of the thirteen propositions are well researched and boast many references, others are less well endowed with relevant literature. Similarly, some propositions are supported by the literature more strongly than others. Possible reasons for these differences will be explored in this synthesis. We now state the propositions from each of the cells in our organisational framework.

Institutional Integration – social/emotional support and academic support cells

Student outcomes are likely to be enhanced when:

3. ***Institutional behaviours, environment and processes are welcoming and efficient.***
4. ***The institution provides opportunities for students to establish social networks.***
5. ***Academic counselling and pre-enrolment advice are readily available to ensure that students enrol into appropriate programmes and papers.***
6. ***Teachers are approachable and accessible inside and outside of class times for academic discussions.***

7. ***Students experience good quality teaching and manageable workloads.***
8. ***Orientation/induction programmes are provided to facilitate both social and academic integration.***
9. ***Students working in academic learning communities have good outcomes.***

Institutional Services – social/emotional support and academic support cells.

Student outcomes are likely to be enhanced when:

10. ***A comprehensive range of institutional services and facilities are available.***
11. ***Supplemental instruction is provided.***
12. ***Peer tutoring and mentoring services are provided.***

Institutional Adaptation – social/emotional support and academic support cells.

Student outcomes are likely to be enhanced when:

13. ***The institution ensures there is an absence of discrimination on campus, so students feel valued, fairly treated and safe.***
14. ***Institutional processes cater for diversity of learning preferences.***
15. ***The institutional culture, social and academic, welcomes diverse cultural capital and adapts to diverse students' needs.***

Figure 5 summarises the relationship between the organisational framework and the propositions.

A word about the types of works synthesised seems appropriate at this stage. We use 5 different kinds of studies. The first is multi-institutional and quantitative using large samples – the kind of large-scale empirical studies favoured for analysis in best evidence syntheses. They are heavily based on large surveys. About a quarter of our studies are of this sort. The second is conducted in a single institution, is quantitative of quasi-experimental design, based on autopsies of student records or yielding data from questionnaires. Most frequently these studies arrive at their conclusions using control groups. Almost one-half of our studies, and all but one of our New Zealand studies, are single institutional quantitative studies. The third produces qualitative data from more than 1 but less than 5 institutions. The research method used in these studies generally consists of case studies. Only a few are of this kind. The fourth is qualitative, generally using interview data from a single institution. About one-tenth of our studies fall into this category. The fifth work is theoretical in intent but synthesises major quantitative studies to make its case. We use these synthesised studies in our own synthesis. About one-seventh of our studies belong under this banner. More detailed information about the studies used in the synthesis for each proposition follows that synthesis.

Figure 5: Relationship between organisational framework and the propositions

<table>
<tr><th colspan="3">Environmental Student Support Influences on Student Outcomes</th></tr>
<tr><th>Institutional practices that</th><th>Support Social/Emotional Needs</th><th>Support Academic Needs</th></tr>
<tr><td rowspan="2">Aid integration</td><td>Enrolment processes
Social networks

Propositions 3, 4</td><td>Pre-enrolment advice
Academic counselling
Student/teacher relationships
Quality of teaching
Academic Success (GPA)

Propositions 5, 6, 7</td></tr>
<tr><td colspan="2">Orientation/Induction
Learning communities

Propositions 8, 9</td></tr>
<tr><td rowspan="2">Provide services</td><td>Health & counselling
Advisory services
Recreational services
Campus facilities
Placement services

Proposition 10</td><td>Supplemental instruction

Proposition 11</td></tr>
<tr><td colspan="2">Peer tutoring
Mentoring

Proposition 12</td></tr>
<tr><td rowspan="2">Adapt to accommodate student differences</td><td>Absence of discrimination
Feeling safe
Valuing minorities

Proposition 13</td><td>Learning preferences

Proposition 14</td></tr>
<tr><td colspan="2">Cultural capital
Fairness

Proposition 15</td></tr>
</table>

Using such a mixture of studies was both necessary and deliberate. We could not have achieved a useful synthesis by relying on large-scale, multi-institutional studies. There were not enough of them to synthesise with confidence. Then there is evidence multi-institutional studies deliver different results to research questions than do single institution studies. Braxton and Lien (2000), for example, tested Tinto's academic integration construct against evidence from single and multi-institutional quantitative studies. They found Tinto's construct gained statistically significant support from research conducted in multi-institutional studies but only very modest support in studies conducted in single institutions. Moreover, the evidence produced from quantitative studies tends to be explanatory and general, unsuitable for policy makers. We felt the qualitative studies were necessary to help us understand the finer grained reasons for positive or negative outcomes. Consequently we did not always give primary weight to quantitative studies. We did not hesitate to emphasise qualitative results where we felt these led to a better understanding of outcomes.

The weight of evidence for these propositions varies both in quantity and in the strength of agreement. We now discuss each of these propositions in the light of the evidence we found.

3.3.1 Proposition 3: Institutional behaviours, environment and processes are welcoming and efficient.

Thirteen studies address this proposition. Of these, 5 originated in the USA, 3 in Australia, 2 in the United Kingdom and 1 in New Zealand. They describe ways in which institutional behaviours and processes influence student outcomes such as retention and persistence. They highlight, for example, the way information about the institution and programmes is offered, the impact of enrolment processes, the effectiveness of advice about course changes and suitability of timetabling, and the ease of early contact between institution and students. These studies support the idea that student outcomes are enhanced where students are assimilated into the institutional culture.

Organisational behaviours

Berger (2001–2002) developed a framework of organisational behaviour and tests aspects of the framework against empirical studies. His framework comprises five dimensions in which people in organisations interact with students. A bureaucratic dimension relies on rules, regulations, hierarchy and goals. A collegial dimension focuses on collaboration, equal participation and consensus. A political dimension rests on competition for resources and among individuals and groups within the organisation. A symbolic dimension emphasises the use of symbols such as logos, myths and ceremonies to create organisational meaning. A systemic dimension concerns how an organisation is understood in relation to broader systems in the external environment. Berger's trawl through evidential literature enabled him to synthesise his five dimensions in 10 recommendations. Of these 7 appear relevant to this proposition:

- Provide students with information and clear lines of communication about campus goals, values, policies and procedures.
- Provide a campus environment characterised by fairness toward students.
- Provide a balance between structure and responsiveness.
- Provide students with advocates.
- Build shared meaning through authentic symbols that are used with integrity.
- Understand the nature of the organisational environment on campus.
- Assess student perceptions of organisational behaviour on campus.

A number of studies further explore organisational behaviour in relation to student outcomes, specifically their retention and persistence. A number of desirable behaviours are identified. A key behaviour is for institutions to establish and publicise their unique identity. Tinto (1993), for example, basing a whole set of recommendations on empirical research, argued that "…institutions must not only ascertain the goals and commitments of entering students, they must also discern their own goals and commitments" (p. 144). From their own research**, Braxton, Vesper and Hossler (1995)** supported Tinto's recommendation by maintaining that institutions should portray their character to prospective students as a way of achieving institutional fit. Students come into institutions with particular expectations and if these are not met, are more likely to leave. Students with unmet expectations perceive that they were misled and may withdraw.

A number of studies have found that creating general student advisory positions assisted retention and persistence. Such advisors help students' assimilation into institutional processes and environment. In a major study of the 14-university Pennsylvania State System of Higher Education, **Bailey, Bauman and Lata (1998)** identified just four significant factors enhancing retention and satisfaction. One of these pertained to the work of student advisors. **Heverly (1999)**, researching drop-out in an American Community College, also found the availability of general advisors and their helpfulness was a factor in ensuring student return. In a study within a New Zealand polytechnic, **Dewart (2003)** found general advisors allocated to specific programmes helped successful completion.

Associated with good advice is the provision of useful information. **Heverly (1999)** found 20% of students who left prematurely said that needing information or getting wrong information was a major factor in their decision to leave. In a review of the research on this subject, McInnis, Hartley, Polesel and Teese (2000a, pp. 42–43) cite James et al. (1999) who found that

> *... an alarming proportion of potential students are not in a good position to judge the appropriateness of courses for them. The quality of information that universities disseminate about their environment and courses must be accurate, comprehensive, easy to follow and informative if students are to make effective choices.*

Examples of necessary information include a description of the characteristics of the experiences offered, the anticipated outcomes for students and the career possibilities. In his major outcome study of early student departure in the north-west of England, **Yorke (1998a)** found the major factor for non-completion was that students chose the wrong field of study. He argued that this might reflect poor quality of information from institutions about what they actually offer.

Institutional environment

Another source of literature about Proposition 1 is found in research about the impact of the general institutional environment on students. This investigates how students experience the organisation: whether they feel welcomed; whether they find a sense of belonging and comfort and whether they feel the environment is efficient. In their study, Bailey et al. (1998) called their third significant factor in retention and satisfaction, 'campus community'. This concerns whether students experience a sense of community, a safe campus environment, a range of campus activities, a sense of belonging and an absence of racial prejudice and general harassment. Walker's (2000) substantial research supported Bailey's findings. Her research into indigenous experiences in Western Australia revealed that 22% of participants in the study considered withdrawing because they found the university environment unwelcoming: "Many students identified culturally insensitive staff, unwelcoming environment and racism on campus as reasons for leaving (p. 3)." Elliott (1997), in a smaller study of reasons for leaving early in one Australian institution, also found that students left prematurely if the university environment did not suit them. Yorke (1998a , 1999) found institutional environment was a very important factor in student outcomes. He identified eight significant factors, one of which was dissatisfaction with provision of facilities. Component items in this factor include 'institution not what I expected', provision of social, library and computing facilities and specialist equipment.

Institutional processes

Institutional processes are early and necessary contact events that impact on students' satisfaction and persistence. Such events include enrolment processes, advice about finances, timetabling of courses and general administrative procedures. Heverly (1999), commenting on research done in an American Community College, found "students who report that information is not readily available, that offices are not helpful, or that policies are not reasonable are likely to feel alienated from the institution" (p. 10) She identified a number of administrative procedures that led to students dropping out, including procedures associated with billing, financial aid and course changes. Dewart (2003) and Molivar (1996) found smooth enrolment processes were a positive influence on retention. Dewart (2003) and Yorke (1998a&b) identified suitability of timetabling as a factor in making decisions about whether to persist with study. Timetables that did not fit in with work and family commitments resulted in student attrition. Timetables that lacked clarity or discretionary time also resulted in confusion, dissatisfaction and possible alienation (McInnis & James, 1994).

3.3.2 Proposition 4: The institution provides opportunities for students to establish social networks

Tinto (1993) suggested six general principles for institutional action to enhance student outcomes. Two are particularly apposite for this proposition: institutions should reach out to make personal contact with students beyond the formal domains of academic life; institutions have a primary commitment to the total well-being of students. The idea that institutions have a key role in enabling social integration has considerable support in the literature, and emerges in a number of strands. One relates to the general social environment and how this facilitates the formation of social networks. A second strand consists of special programmes and facilities provided by institutions to promote the formation of social integration. A third, while supporting the role of institutions in facilitating student social integration, is also more cautionary. Fourteen studies in this synthesis address this proposition. Of these, 7 originated in the USA, 5 in Australia, 2 in the United Kingdom. None of the studies in our New Zealand database directly address this proposition although the evidence gathered suggests the findings reported apply also to New Zealand.

The importance of social networks

Two themes underpin this aspect of our synthesis. One asserts the importance of students' assimilation into an institution's general social milieu. Based on his major study of the college experience, **Astin (1993)** wrote: "the student's peer group is the single most potent source of influence on growth and development during the undergraduate years" (p. 398). **Strauss and Volkwein (2001)**, in a major American study of 28 2-year and 23 4-year public institutions, found a sense of belonging to the social milieu was a key predictor of ongoing student commitment. Reporting on a major Australian study, McInnis, **James and McNaught (1995)**, noted that the "social nature of the university experience has the potential for contributing positively to academic performance, and more generally should influence the individual's sense of competence" (p. 47). In an Australian study seeking to establish major predictors of successful student transition into higher education, **Huon and Sankey (2001)** found social involvement contributed heavily to successful transition. In an American longitudinal study of emotional, social and academic adjustment of new arrivals at a university, **Gerdes and Mallinckrodt (1994)** found "that personal adjustment and integration into the social fabric of

campus life play a role at least as significant as academic factors in student retention" (p. 7). Schwarz and Washington (1999), researching academic success in an American women's university, found social adjustment was the best predictor of persistence out of 7 variables tested.

The second theme emerges from research pointing out the importance of social networks to achieving successful student outcomes. Summarising findings from her largely qualitative British study, Thomas (2002) observed, "the empirical research demonstrated that an aspect of the university experience that seems to be fundamental to the decision of students whether or not to stay was the extent to which they had good friendships and social networks" (p. 435). Answering the question 'what made you decide not to leave then?' one student answered: 'I've got a lot of really good friends here. I think that's one of the major things for most people that'll keep them here' (p. 435). Zea et al. (cited in Saenz et al., 1999) found in an American study that how peers treat individuals is more important than personal attributes. **Saenz, Marcoulides, Junn and Young (1999)**, in their own study of factors leading to academic success among minority students, listed a raft of social interactions that may help students build social networks. These include attending performances on campus, participation in campus organisations, doing volunteer work and taking part in study groups. Of particular value in networking seems to be belonging to learning communities. These, according to **Johnson (2000–2001)**, offer opportunities for inclusion, continuity, connection, collaboration, and shared goals. Her study of the effect of belonging to learning communities in a north-eastern American university reveals that they have a significant effect on retention.

Institutional actions to facilitate social networking and integration

Given the importance of effective social integration into the institution to achieving successful outcomes, there is literature that investigates what kind of institutional actions are most successful. Two kinds of actions are reported. One is the provision of suitable facilities that will enable students to make friends. In their study, **Saenz et al. (1999)** decided 13 significant variables helped predict successful academic performance. Among these 13 were 'scanning notices of campus events', 'attendance at athletic events' and 'attend campus events in fine arts'. Their findings suggest providing events and facilities for social networking is a useful investment for institutions to make. Exploring with her focus groups what institutions can do to help students develop their social networks, **Thomas (2002)**, discovered that students valued student union facilities as sites for networking. The student union bar was a favoured place. One student commented 'over here it's much more of a community…. You have the possibility of seeing faces that you recognize as opposed to people you will never see again'. Other suggestions related to designating rooms in which specific groups like women and adherents of religions could meet.

The other action reported relates to the provision of special courses designed to facilitate social connections. These are not institutional orientation courses or special needs courses but courses that deliberately bring students together into learning communities to ease transition into the institution. In an Australian study, **Peat, Dalziel and Grant (2001)** found that first-year students who had attended a 1-day pre-course 'Transition Workshop' formed stronger peer relationships than those who did not and subsequently performed more strongly academically. **Johnson (2000–2001)** investigated the effectiveness of four special programmes to enhance student retention in a north-eastern institution that traditionally has a

2-year retention rate of 38%. Two of the special programmes were structured according to learning community principles. They attempted to have students, teachers and administrators work towards shared academic goals. Bonding activities included shared dinners and social outings. Johnson found the two learning communities studied achieved 2-year retention rates of 78 and 57% (p. 227). Also structured on learning community principles including shared dinners and out of university occasions were students enrolled in a special programme at a southern American university. **Mangold, Bean, Adams, Schwab and Lynch (2002–2003)** found students enrolled in the special learning community programmes were significantly less likely to drop out than those not part of the community.

Some cautions

While on the evidence available we found that being part of a social network is important to achieving successful outcomes, **McInnis et al. (2000b)** warned that too much socialising could be detrimental to academic success. Moreover, there is no evidence socially isolated students are necessarily less likely to succeed than well-connected ones. Indeed, McInnis (2001a) and **McInnis and Hartley (2002)** both observed a changing pattern of student engagement with their university studies, as paid work takes more of their time: Social networking may become less important in the social integration process. **Thomas (2002)** put a different perspective on the nature of social engagement when she observed that it is much easier for residential students to socialise than it is for those who live away from the university. We also found two studies that do not support the strong conclusions about social integration reported so far. **Mohr, Eiche and Sedlacek (1998)**, researching the experiences of American 'senior' students, found 'seniors' had already found their social niches, and were much more focused on academic achievement than on campus life. **Mackie (2001)** found impediments to social integration were not as important in student departure from an English Business school as organisational, external and individual motivation factors. Despite these cautions, we believe the proposition holds up well.

3.3.3 Proposition 5: Academic counselling and pre-enrolment advice are readily available to ensure that students enrol into appropriate programmes and papers

Twelve studies addressed this proposition. Four were conducted in Australia, 3 in the USA, 4 in the United Kingdom, and 1 in New Zealand. The studies tended to highlight the effects of a lack of academic counselling and pre-enrolment advice – students making wrong choices. Studies of student withdrawal suggested a surprisingly large number enrol in the wrong course, even the wrong university. The studies synthesised here show that readily available pre-enrolment advice and academic counselling is likely to assist retention and improve student outcomes.

Making wrong choices

Major studies reported by **Martinez and Munday (1998)**, **Yorke (1998a**, 1998b, **1999**) **McInnis et al**. **(2000a&b)** all reported that making wrong choices is a key factor in withdrawal and non-completion. Wrong choices are made at several levels, for example, choice of institution, field of study, programme or course. McInnis et al. (2000a) found "many students are seriously under-informed on key issues about their choice of an institution" (p. 27). They rely on word of mouth, hearsay and vague impressions of institutions rather than

well-founded, adequate information**. Rickinson and Rutherford (1996)** found 15 percent of those who withdrew in the first term and 21 percent of those withdrawing in the second or third terms, endorsed 'I think university is not the right place for me. I am going to find work' as a cause of their withdrawal.

Yorke (1998a, 1998b, **1999)** conducted a study into non-completion in the north west of England and found the most frequently mentioned item was 'chose wrong field of study'. Another, related item, 'programme not what I expected', was also frequently mentioned, as was 'wrong choice of programme'. **Hinton and Tickner (2000)** found the programme 'not being what the student thought it was going to be' was a cause of non-attendance.

Rickinson and Rutherford (1996) found 67 percent of students withdrawing in the first term and 79 percent of those withdrawing in the second or third terms endorsed the statement 'I have chosen the wrong course' as a reason. In the USA, **Bers and Nyden (2000–2001)** found 20 percent of their respondents gave 'signed up for the wrong course' as their reason for dropping courses. McInnis et al. (2000a) cite Sharma and Burgess' (1994) finding that almost a third of their participants thought they had enrolled in the wrong course. In a small study at Australia's Curtin University, **Elliott (1997)** found 'did not really want to be in this course in the first place' applied to a number of students who withdrew.

Choosing the wrong course initially also results in significant levels of transfer – to other courses and other institutions. Many students **in Rickinson and Rutherford's (1996)** investigation wanted to continue studying, but to transfer to another course (47 percent of those leaving in term one and 73 percent of those leaving in terms two or three) or to another institution (71 percent and 77 percent). This suggested these students were suited to university education and better information might have enabled them to enrol in more appropriate courses. McInnis et al. (2000a) cite **McInnis and James' (1994)** conclusion that 17 percent of students change their course or faculty during their first 2 years. **Reyes (1997)** reported as many as 70 percent of students at North Carolina State University were changing their majors and 13 percent were leaving.

Yorke (1998a) found school leavers were more likely than their older peers to give wrong choice of field of study as a reason for non-completion, a finding supported by **Elliott (1997)**. **McInnis et al. (2000b)** found some younger students are not ready to choose a university course because they are uncertain about their career. But senior students, too, need appropriate information, albeit of a different kind: "…seniors may be more likely to stop out or drop out …when they are not pointed toward information about services relevant to their educational goals" **(Mohr et.al, 1998, p. 352)**.

This question of 'wrong choice' has another side. McInnis et al. (2000a) pointed out that sometimes 'wrong choice' is the "result of natural or positive changes in direction as school leavers gain greater maturity" (p. 27) or the result of not having had a choice at all, for example when students have not gained admission to their first choice subject or course. This is true for as many as one-third of first-year students. Students who find themselves in this situation often enrol in an alternative course, hoping to transfer later to their first choice. McInnis et al. (2000a) added that some found they had made 'wrong choices' only after starting a course and realising that the ways it was presented and organised did not fit for them.

A more direct link to academic counselling and pre-enrolment advice was found in **Pitkethly and Prosser (2001)** who identified 'lack of enrolment advice' as an institutional weakness in their study of first-year experience in an Australian university. **Dewart's (2003)** study of a retention project in a New Zealand polytechnic led her to the recommendation that: "Advice on enrolment is critical … Correct entry, at the correct level, into the course that will work for the student is a much better start for students. The first days are critical" (p. 22).

Strategies

These studies also provided some possible solutions to the lack of academic counselling and pre-enrolment advice. **Yorke (1998a)** suggested poor choice may "reflect the poor quality of information from institutions about what is actually being offered" (p. 195). Improving the quality information and disseminating it widely so potential students can access it becomes a priority. Such information "must be accurate, comprehensive, easy to follow and informative … and include:

- the characteristics of the academic experiences offered at an institution;
- the anticipated personal knowledge and skill outcomes; and
- the career possibilities and likely prospects. (James et al., 1999, cited in McInni et al. (2000a, pp. 42–43)

Martinez and Munday (1998), **Yorke (1999)** and McInnis et al. (2000a, p. 59) suggested a number of other strategies specifically aimed at addressing mismatched expectations and reducing incorrect course placements as reasons for withdrawal: links to schools, pre-course briefings, course sampling or taster opportunities, interview guidance, specialist guidance, involvement of current students, improved selection policy and practice, induction programmes, early diagnostic assessments and feedback on progress. **Reyes (1997)** described strategies used to retain College students. These include the establishment of a First Year College, to give new students a full year in College before deciding on their major. (Other strategies fall under the umbrella of supplemental instruction and peer tutoring and will be discussed under Propositions 11 and 12).

The weight of evidence in these research studies suggests that providing accurate, comprehensive and easy-to-follow pre-enrolment information about institutions, programmes and courses is a priority area for improving student outcomes. McInnis et al. (2000a) concluded:

> *It is no surprise then that one of the most important institutional strategies advocated for reducing non-completion is pre-course counselling. In most cases this involves easier access to detailed and comprehensive course information …. Without management support for a policy of effective pre-course counselling, inappropriate enrolment will continue, with associated high levels of non-completion.* (pp. 43–44)

3.3.4 Proposition 6: teachers are approachable and available for academic discussions.

A strongly recurring theme in the literature is that outcomes can be improved where students have regular and meaningful contact with teachers, both inside and outside the classroom (Astin, 1996; McInnis et al., 2000a; Tinto, 1997; Yorke 1998a, 1999). Researchers report that student informal non-class contact with teachers is linked to outcomes like satisfaction with

the university experience, educational aspirations, intellectual and personal development, academic achievement and first-second year persistence. We have synthesised 18 studies for this proposition: 11 from the United States, 2 from Australia, 3 from the United Kingdom and 2 from New Zealand. Our synthesis resulted in three themes to support the proposition. The first highlights the role of teachers in nurturing students. The second, and related theme, suggests teachers have a mentoring role away from their teaching. The third theme examines the role of teachers in learning communities. Together the themes contribute to achieving positive learning outcomes.

A nurturing relationship

We found the notion that nurturing by teachers improves student outcomes **in Padilla, Trevino, Gonzalez and Trevino (1997)**. They used an expertise model to identify successful minority students at a large public university in the south-western United States. This suggests that successful students must overcome four barriers, one of which is lack of nurturing. Among their other strategies, successful students sought out sympathetic teachers to help them overcome the nurturing barrier. The notion of nurturing was supported by Walker (2000) who found a number of 'resilience' factors in a study funded by the Australian Department of Education and Youth Affairs. She found the retention for aboriginal students improved where they had ready access to culturally sensitive and decolonising teachers who were accessible and available. Saenz et al. (1999), in their attempts to create a model of the relationship between higher education experience and student outcomes, decided that 13 significant variables helped to predict successful academic performance. Among these 13 was one that specified student talk with teachers. The nurturing expectations of students were also noted by **Bailey et al. (1998)** in their large-scale student satisfaction study in Pennsylvania. Of the four significant factors contributing to satisfaction was one pertaining to teachers. Making up this factor were items such as 'faculty are available when I need them' and 'faculty care about me'. Studies by **Gerdes and Mallinckrodt (1994), Yorke (1998a)** and **Heverly (1999)** also supported the notion that persistence is enhanced where teachers are in close support of their students.

Astin (1996), Thomas (2002) and **Jonides and Gregerman (1996)** provided an interesting slant on the importance of the nurturing teacher-student relationships. Their work suggested that teacher research is both a problem and a boon in the nurturing process. Using survey studies, **Astin (1996)** compared the effect on student outcomes of teachers with research and student orientations. Those with student orientations focus on the learning needs of students. The interests of those with research orientations are less centred on nurturing students. He noted a number of negative effects of research orientations on student outcomes. Among these he quoted negative effects on graduation rates, honours and general academic achievement as measured by GPA, and concluded "there is a significant institutional price to be paid, in terms of student development, when the faculty puts a great emphasis on research" (p.127). This view of research as a barrier to establishing nurturing relationships was also found by **Thomas (2002)** in her qualitative study in the United Kingdom. She observed that the emphasis on research and research outputs created a climate in an institution that can negatively affect student-teacher relationships and therefore outcomes. **Jonides and Gregerman (1996)**, on the other hand, showed how research could help the nurturing process. They reported on an undergraduate research opportunity programme in the United

States. This attempts to improve retention of minority students by fostering identification with the institution through personal contact with teachers. The means of contact are collaborative research projects in which teachers and students work together on a small research project. A multi-faceted evaluation shows promising results. Students taking part in this venture have attrition rates 35% lower than members of a control group. It is possible to take from these studies that the research orientations of teachers and institutions is a factor to be considered. Policy makers have the opportunity to make it a positive or negative influence on student outcomes.

Staff mentoring

The Jonides and Gregerman study showed how nurturing relationships involve mentoring. So in this section we are more concerned with synthesising literature that examines whether mentoring has a positive effect on student outcomes than with establishing efficacy. The very positive results of the undergraduate research groups noted by Jonides and Gregerman were reported above. Here teachers, leading collaborative undergraduate research groups, acted as mentors in both an academic and personal sense. **Wolfe (1996)** described the evaluation of a programme to improve student achievement involving staff mentoring. The programme consisted of regularly scheduled study sessions in science subjects in an American Community College. Students worked in 42 groups. Each group was led by a student who in turn was mentored by an experienced teacher. While the direct effect of the mentoring on outcomes was not evaluated, the indirect effect of the programme on student retention was very positive. Teachers participating in the programme found it improved their understanding of learning, teaching and the importance of establishing personal relationships. Giebelhaus and Bowman (2002) suggested training teacher mentors for their roles is worth the effort. They reported that student teachers doing practicums had significantly better outcomes if their teacher mentors had been trained than if they had not.

Two studies from New Zealand polytechnics reported using staff mentoring in the expectation of improving student outcomes. **Wilson (2002)** described a relatively small-scale project in which a mentor scheme was one of a portfolio of interventions used. Evaluative research had been completed with one group. This showed students were very satisfied with the mentoring they had received. Staff also thought of mentoring in positive terms. Most importantly, the success rate rose from 89 to 96% and the retention rate from 52 to 71%. Another small-scale initiative that used mentoring as a way of creating learning communities was conducted at another New Zealand polytechnic using qualitative and survey methods. While not strictly an outcome study, **Kozel (2002)** reported some interesting results on the effectiveness of mentoring. On the negative side was the result that none of the third of the student group who had considered leaving during the year had involved their mentor in their decision to stay. On the positive side, students felt mentors had helped them win battles with the administration over exclusion decisions. Just over half the group felt the support of the mentor had been important to them. From these studies it seems mentoring is of indirect benefit to student outcomes. Teacher mentoring enables students and teachers to establish contact outside the classroom and thus the research moderately supports the proposition.

Teachers in learning communities

Learning communities are formed by people who wish to enhance their own and the group's capabilities in a collective undertaking. Brown and Isaacs (1994) (cited in Kozel, 2002; p. 17) suggest 6 words to capture the purpose of learning communities: "enhancing capability, commitment, contribution, continuity, collaboration and conscience". Teachers in mentoring roles often work in learning communities outside of the purely academic enterprise. This is clearly the case in a study reported by **Johnson (2000–2001)** that demonstrated that belonging to learning communities in a north-eastern American university had a significant effect on retention. In this study learning communities aimed to have students, teachers and administrators work towards shared academic goals. Bonding activities included shared dinners and social outings as well as mentoring relationships. Similarly, **Mangold et al. (2002–2003)** found students enrolled in special learning community programmes were significantly less likely to drop out than those not part of the community. **Zeegers (1999)** mentored an Australian learning community in which her role was one involving 'caring interest'. As senior resident in a residential facility attached to an Australian university, the author led a learning community to improve passing rates of first-year students. Diverse approaches such as extra tuition, small group peer tutoring, keeping learning journals, guest speakers and social activities, resulted in positive outcomes. Whereas the pass rates of students in the residence were 66% in the previous year, they rose to 95% at the conclusion of the project.

In short, our synthesis has found strong support for the proposition that teachers who are approachable and available for academic discussions away from formal teaching are influential in achieving good student outcomes.

3.3.5 Proposition 7: Students experience good quality teaching and manageable workloads.

Twenty studies addressed this proposition although it is important to stress none directly researched the impact of teaching quality on student outcomes. Rather, many identified quality of teaching as one factor. Of the 2 studies synthesised here, 8 are from the USA, 8 from Australia, and 4 from the UK. It is worth noting no New Zealand tertiary studies were found. Findings from these studies fall into four clusters – quality teaching, contact with the teacher, teaching methods, and workload.

What is quality teaching?

Unfortunately most of the studies do not to define 'quality teaching'. **But Astin (1993)** identified a variable, 'Student Orientation' that "produces more substantial direct effects on student outcomes than almost any other environmental variable" (p. 342). This orientation had direct positive effects on academic outcomes such as bachelors degree attainment, scholarship, self-reported growth in writing skills, critical thinking abilities, analytical and problem solving skills, and overall academic development. From our synthesis of **Braxton et al. (1995), McInnis et al. (1995), Forgasz (1997), Bailey et al. (1998), Walker (2000), Baker and Pomerantz (2000–2001)**, and **Lizzio, Wilson and Simons (2002)** we identified a number of qualities associated with this 'student orientation'. Good teachers: respect students; are fair and unbiased; culturally sensitive; approachable, available, helpful and caring; motivate their students; are interested in, excited and enthusiastic about their subject; use

good verbal skills to explain it well and give 'real life' examples; are well organised; set clear goals and standards, use appropriate assessment and emphasise students' independence.

Many of the studies rely on students' perceptions of quality teaching. These perceptions are important because it is "*students' perceptions* of their learning environment, in light of their motivations and expectations, which determine how situational factors influence approaches to learning and learning outcomes**" (Lizzio et al., 2002**, p. 28). Quality teaching and workload are important learning environment variables because they lie within the control of institutions (McInnis et al., 2000a). While new students are the focus of many of the studies, teaching quality is also important for senior students (**Mohr et al., 1998**). Indeed Mohr et al. found that "the perceived quality of education may well play a role in stopping out as well as dropping out" (p. 351).

Contact with teachers

A strongly recurring theme throughout the studies is that quality teaching includes students having regular and meaningful contact with teachers (**Astin, 1996; Saenz et al., 1999; Tinto, 1997; Yorke, 1998a**, 1999). It is also noted that class size affects the level of contact possible. This theme is addressed in detail in Proposition Four.

Teaching methods

We identified three strands on teaching methods in the literature. While some writers argue for the use of methods that foster independence in learning (McInnis et al., 2000a), the majority of studies identify students' difficulties adjusting to the independent learning required at tertiary level. In this first strand, it is identified that as many as 30% of first-year students have some difficulty (**McInnis & James, 1994**). Students are disconcerted with the impersonal style of lectures, at being left to manage their own learning (**McInnis et al., 1995**), and at the lack of help available to make the transition (**Mackie, 2001**).

> *At school the teachers are always there pushing you because they feel they have a responsibility ... whereas at university level there is help if you want it; you have to find it yourself. (**Forgasz, 1997**, p. 8)*

Kell and van Deursen (2002) studied the learning preferences and readiness for self-directed learning of physiotherapy students in Cardiff. They found that, at intake, students preferred a concrete, fact-based, teacher-structured learning environment and that curricula factors can mould students' learning profile development. There are calls for teaching methods that are more in line with students' expectations and for those that enable students to make the transition to independent learning (Brennan et al., 1996, cited in McInnis et al., 2000a).

The second strand advocates collaborative methods that engage students actively in learning and with each other (**Astin, 1996**; McInnis et al., 2000a; **Tinto, 1997**). Tinto is a leading proponent of this collaborative style of teaching, having developed and researched the notion of classrooms as learning communities (see Proposition 9). His research led him to the conclusion "the results of our studies lend support to some of the basic tenets of learning communities and the collaborative pedagogy that underlies them" (**Tinto, 1997**, p. 612). **Lizzio et al. (2002)** found that "teaching perceived as 'involving' can and does contribute 'added value' to both students' achievement, and learning beyond their prior academic ability" (p. 37). Many of the studies detailed in Propositions 9 and 10 report the successful

implementation of collaborative learning methods. Research carried out in Australia by **McInnis et al. (1995)** confirmed the positive effects of collaborative learning.

The third strand calls for flexibility in methods, in particular to cater for the needs of increasingly diverse students, but also as a means to improving completion rates (Dunn, 1995, cited in McInnis et al., 2000a). Flexibility in programme delivery, assessment procedures as well as sympathetic teaching styles are all recommended. **Walker (2000)** found flexibility was a factor in indigenous student success in Australia. In an attrition study, Duball and Baker (1990, cited in McInnis et al., 2000a) found students who dropped out had a significantly lower level of satisfaction with the suitability of instructional methods than persisters.

Workload

Not surprisingly, perceptions of what constitutes a reasonable workload may vary between teachers and students. In **Lizzio et al.'s (2002)** study students' perception of their workload was closely associated with their levels of satisfaction and their academic achievement and supported findings from other literature. When their workload is deemed manageable, students have more time to engage in desirable higher order learning activities. When their workload is 'packed' they resort to surface processing, which results in poorer learning outcomes. Pitkethly and Prosser (2001) identified high workload as a weakness in first-year subjects. **Mackie (2001)** found students were concerned about the quantity of work they had to do, which led to a lack of organisational integration. A high workload results in less effective learning (McInnis et al., 2000a).

Workload is a particular issue in assessment and has been discussed widely in literature on assessment. **Hinton and Tickner (2000)** identified over-assessment and lack of cross discipline communication about timing and volume of assessment as a problem area in their study. McInnis et al. (2000a) summarised these concerns when they identified as one of their general themes to improve the first-year experience "the rethinking of assessment methods and procedures" (p. 47). Linked to assessment is the need for early feedback on progress.

Quality teaching and student workload are key factors influencing student outcomes. **McInnis and James (1994)** make the point concisely:

> *Our suggested priorities for institutional policies aimed at maintaining student academic commitment and success begin with basics. Improving the quality of teaching in the most fundamental ways will make a difference.* (p. 15)

3.3.6 Proposition 8: Orientation/induction programmes are provided to facilitate both social and academic integration.

Of the propositions examined so far, numbers 3 and 5 indirectly consider how well institutions induct and orientate students into their new environment. Of the propositions to come, numbers 9, 10 and 11 also touch on how students' early experiences affect outcomes. In short, the importance of orientating and inducting into general academic life is already amply acknowledged in this synthesis. For two reasons, we have nevertheless chosen to examine the impact of special orientation and induction programmes, courses and seminars separately. One reason is that a need for academic orientation courses has been established in large-scale surveys (**Bailey et al., 1998**; **Braxton et al., 1995**; **Martinez & Munday, 1998**; **Walker, 2000**; **Yorke, 1998a**). Results from these studies indirectly send a strong message

that dedicated orientation programmes are vital in helping to overcome potential student unhappiness with course selection and induction – a key factor in student attrition in all these studies. A second reason is more direct. Institutional studies suggest that formal orientation programmes improve outcomes (**House & Kuchynka, 1997**; **Molivar, 1996**; **Peat, Dalziel & Grant, 2001**; **Rickinson & Rutherford, 1996**; **Williford, Chapman and Kahrig, 2000–2001**; **Wilson, 2002**). All these writers appear to agree with Pascarella et al. (cited in McInnis et al., 2000a, p. 45) who "explain the efficacy of orientation programmes in terms of anticipatory socialization, whereby individuals come to anticipate correctly the values, norms and behaviours they will encounter at university." Thirteen studies have informed our synthesis – 6 from the United States, 3 from the United Kingdom, 3 from Australia, and 1 from New Zealand.

Induction into subject areas

Three large-scale studies found that lack of institutional help with choosing suitable academic courses and pathways was a key reason for students leaving early. In his study of English university students, **Yorke (1998a)** found two of the top four factors responsible for early student withdrawal included feelings of dissatisfaction with induction into programmes of study. **Martinez and Munday (1998)** show that of the 9000 British further education students sampled in their study, course-related factors that could have been overcome with proper academic orientation featured prominently as dissatisfiers among students who had withdrawn. **Bailey et al. (1998)**, in their multi-university retention study in Pennsylvania, found items contributing to their four significant retention factors included satisfaction with academic information and advice being available at the beginning of courses. In her study of aboriginal retention patterns in Western Australian universities, **Walker (2000)** found a resilience factor in retaining aboriginal students was a welcoming orientation programme. Given these findings, we suggest orientation courses, workshops and seminars that "provide information about the university and student life, approaches to decision making strategies for career selection, and ways for achieving appropriate credentials"(**House & Kuchynka, 1997**, p. 540) will enhance student retention outcomes.

These multi-institutional studies are backed by research in single institutions. Some of this research reported on orientation into single subjects. **Treisman (1993)** reported on a Mathematics workshop at the University of California at Berkeley. This was not a remedial or supplemental programme, but a course fitting House and Kuchynka's definition. He found significantly fewer students who had taken the workshop dropped out compared with those who did not participate. The achievements, particularly of African-American students, were noteworthy. 56% of the African-American workshop students earned a B- grade or better compared with the 21% of those not taking the workshop. This orientation programme was adopted by universities in Texas, New Jersey, and New York with similar results. **Wilson (2002)**, in his New Zealand study, reported on one polytechnic's attempts to improve retention and successful completion. In this project, orientation is embedded in students' courses of study. It includes a mentoring scheme, a learning journal and induction into the subject. Results from a completed one-semester course are promising. The retention rate has improved markedly over three semester offerings – from 41% to 52%t to 71%.

General orientation courses

Other research has reported on general orientation courses and seminars**. House and Kuchynka (1997)** described a general university induction course for a Health Science programme. The course was designed to promote peer relationships, guidance in selecting a major field of study, and help in establishing good study habits. Students who took the orientation course earned significantly higher first semester GPAs than students who did not participate. Equally important were the significantly better persistence rates of those who took the course when compared with those who did not. **Peat, Dalziel and Grant (2001)** described a 'Transition Workshop' offered to starting University of Sydney science students that also aimed at inducting first-year students into university life and into their programmes of study. Follow-up surveys indicated the workshop helped students establish strong relationships and enjoyment of university life. Compared with similar students who did not take the course, workshop participants also recorded higher levels of academic performance on average in their first year of study. **Williford et al. (2000–2001)** conducted a 10-year longitudinal study of a university experience course at Ohio University. The purpose of the course was to help students adjust to the demands of the general university environment and to develop academic skills. The results were positive. In most years, at study year-end GPAs, retention rates and graduation rates were higher for those who did attend than for those who did not. **Lake (1998)** described attempts by Murdoch University in Australia to use a general orientation to the university course to support students at risk of withdrawing. The outcomes for student retention were very favourable. In evaluations, students attributed their persistence to the orientation course. **Molivar (1996)** also reported improved outcomes resulting from students experiencing general orientation courses.

In their literature review, McInnis et al. (2000a) warned that orientation programmes need to heed the increasing diversity of the student population. They argued that it is essential to offer a diverse set of experiences in orientation programmes, and offered three strategies to cater for this diversity. First, orientation must offer opportunities for students to establish supportive personal networks. Second, they suggested orientation programmes are most effective when they are integrated, coordinated and holistic, and involve a range of university personnel. Third, successful programmes draw on the experiences of students who have left their first-year experiences behind. We would add a fourth strategy. Our synthesis of successful programmes indicates successful orientation programmes are connected to subject learning.

3.3.7 Proposition 9: Students working in academic learning communities have good outcomes.

In Proposition 6 we found that staff mentoring in learning communities support social integration. In Proposition 9 we find that some academic learning communities assist students' assimilation in an academic sense as well. In their major study across 14 state universities in Pennsylvania, **Bailey et al. (1998)** found a sense of community was one of only four significant persistence factors identified by students. In their large-scale United Kingdom studies, **Martinez and Munday (1998) and Yorke (1998a)** also found the absence of opportunities to learn collaboratively influenced decisions to leave. **Thomas (2002)**, in her more qualitative analysis, reported numerous comments from students supporting the notion of learning as a collaborative endeavour.

The concept of academic learning communities has various applications. These range from combining courses (**Baker & Pomerantz, 2000–2001; Mangold et al., 2002—2003; Tinto, 1997**) to creating cohort groups within larger classes (**Johnson, 2000-2001; Kozel, 2002; Martinez & Munday, 1998; Moore, Townsend, Wilton and Tuck, 1995**) to institutions deliberately creating a homogeneous ethos in relation to ethnicity, gender, domicile or religion (**Molivar, 1996; Schroeder, 1996; Schwarz and Washington, 1999; Zeegers, 1999**). We used 18 studies in this synthesis of academic learning communities – 11 from the United States, 3 from the United Kingdom, 2 from Australia, and 2 from New Zealand.

Combining courses

A number of studies report initiatives that clump students from several courses into discrete learning communities. **Baker and Pomerantz (2000–2001)** reported on a study conducted in Kentucky. They compared first-year students who had worked in interdisciplinary learning communities with a control group who had not. While slightly hedged, they concluded that the research

> *... clearly shows evidence that the learning community model which simply clusters courses can make a difference in the academic lives of students….Students who participate have higher GPAs and slightly higher retention rates.* (p. 125)

Tinto (1998) was enthusiastic about the prospect of academic learning communities. In a study of a learning community programme in a north-western American Community College, he reported participants in the clustered courses had a significantly higher retention rate than members of a control group. In a complementary qualitative study he reported very supportive comments from participants about their learning community experience. Reporting on an American longitudinal study of a clustered classes intervention to improve retention, **Mangold et al. (2002–2003)** found the programme had a significant positive impact on both persistence and graduation.

Cohort groups within larger classes

In New Zealand this kind of learning community might best be recognised as an enhanced tutorial group. It involves students in a big programme coming together to learn collaboratively in small groups. **Johnson (2000–2001)** compared retention, academic achievement (GPA) and credits earned by members of two academic learning communities with two special learning support control programmes. She also computed the cost effectiveness of learning communities and the control groups. Her findings are compelling. Students in the learning community programmes achieved significantly better outcomes on the measured parameters than did the controls. Additionally, she found using an income-expenditure model that for the learning community programmes "the return gained from the more expensive efforts is worth the investment" (p. 236).

In their study of 9000 further education students in the United Kingdom, **Martinez and Munday (1998)** recorded a great deal of information from students about curriculum organization. Amongst this was strong evidence that tutorial groups were important factors in persistence. While students did not report on their experiences in learning communities as such, they did discuss tutorials and their effect on their decisions to leave or stay. It seemed from their anecdotal evidence that the quality of tutorials were factors in student decision

making. Students who withdrew were reported as dissatisfied with a lack of collegiality in the way they were run, in an absence of attempts to create a positive and participative group dynamic and a dearth of communication between teachers. **Kozel's (2002)** work in a New Zealand polytechnic with learning communities in commerce, supported the view that academic learning communities enhance student outcomes. Casting some doubt on the evidence supporting this kind of learning community is a New Zealand study of a group of science students working collaboratively. This study did not find that they gained significant advantages over a control group working individually (**Moore et al., 1995**). Despite this, the evidence that cohort groups within large classes enhance student outcomes is strong.

Creating homogeneity

Our synthesis produced a third kind of learning community. This is formed when institutions attempt to create a homogeneous academic learning climate: a learning community based on a shared ethnic, gender or religious ethos. Although no New Zealand studies were accessed on this subject, it seems to us that this wider meaning of the term 'learning community' is relevant to New Zealand. Although studies by **Cochrane (1991)**, **Padilla et al. (1997)**, **Monk (1998)**, **Walker (2000)** and **Salinas and Llanes (2003)** referred to this issue, two studies were particularly challenging. **Schwartz and Washington (1999)** examined the academic success and retention of first-year students at a female African-American institution at a historically black, private, liberal arts university. The study found the success factors for these students were about the same as theorised for Tinto's model. Academic and social adjustment and the availability of a strong support person were crucial to success. What was not significant was the ethos of the institution. No significant answers were obtained to questions about either the female or black ethos of the institution. **Molivar (1996)** researched the institutional effectiveness on student retention of a Catholic university. While the researcher did find that Catholics had 50% greater persistence than non-Catholics, this ethos factor amounted to only 10% of the persistence factors identified in the study. The dominant retention factors reported were academic success and social adjustment as defined by Tinto. It seems from these studies, that the importance of a strong sectoral ethos in an institution can be overestimated.

The evidence regarding this proposition suggests that the notion of learning communities as a tool for better student outcomes must be treated with a little caution. In making a judgement about the efficacy of learning communities, it is important to recognise there are at least three different kinds of academic learning communities. Our synthesis reveals that learning communities created from combining courses do have positive impacts on student outcomes. Cohort groups formed to study specific subjects also seem to have positive effects on outcomes. The idea that special ethos institutions have a beneficial effect on student outcomes is not supported by the evidence available to us.

3.3.8 Proposition 10: A comprehensive range of institutional services and facilities is available.

We found 16 studies that reported on institutional services and facilities and their possible impact on student outcomes. Eight originated in the USA, 6 in Australia, 1 in the UK, and 1 in New Zealand. Together they present a picture of the types of services that are desirable, the use students make of them and their effectiveness.

Personal/social and academic services

It is widely recognised that institutional services and facilities play a role in the social and academic integration of students, which leads to their retention and success (**Astin, 1996; Tinto, 1997**). These services and facilities are often separated into two groups: the first focusing on students' personal, social and emotional needs, the second on their academic needs. However, we found an emerging strand in the research that recommends the integration of these two groups. **Hinton and Tickner (2000)** uncovered an important issue when they found academic staff did not know the types of support services available to students and some did not see it as their responsibility to lead students to appropriate services. As one way to counter this, **Bruning (2002)** cited Dolence's suggestion that "the most important prescription for effective student retention is cooperation and collaboration between academic and student affairs areas" (page number?). Abbott-Chapman's work (1998, cited in McInnis et al., 2000a) supported both Hinton and Tickner's finding and Dolence's solution.

This notion of integration also surfaces in **McInnis et al.'s (1995)** major study. While writing specifically about academic services, they stressed the desirability of integrating them into the academic mainstream rather than locating them outside the faculty and department mainstream. Academic support is a significant part of institutional services. Because many of the academic support activities we found, for example, supplemental instruction, peer tutoring and mentoring, are described fully in Propositions 11 and 12, they will not be repeated here. However, one emerging academic support service is worth mentioning. Early detection schemes for students at risk of failing and systematic monitoring of the adjustment of first-year students are recommended (**McInnis et al., 1995; Rickinson & Rutherford, 1996**).

Types of services desirable

McInnis et al. (2000b) provided a comprehensive list of services used by first-year students in 7 Australian universities: child care; pastoral/religious care; English language resource/support services; financial aid; counselling service; health service; library support service; support for international students; women's resource/support centre; student housing service; employment service; study skills assistance; student union clubs; student union sports facilities; and student union cafeteria/catering service.

Counselling services

Research into the impact on counselling on retention yielded ambiguous results **(Wilson, Mason and Ewing, 1997)**. We found four studies that specifically addressed the effect of counselling services on student outcomes. Three produced very positive results. In the USA, **Turner and Berry (2000)** conducted a large survey of students who had received counselling and compared their retention rates with those were not counselled. They found the retention rates for counselled students were significantly better, although there were no significant differences in graduation rates. **Wilson et al. (1997)** examined the academic records of students who had requested counselling at Iowa State University. Their retention rate was 79%, while the rate for those who requested counselling but did not keep appointments was 65%. In the UK, **Rickinson (1998)** engaged in a 4-year study to explore the relationship between undergraduate student counselling and successful degree completion. A small group of students, identified having a 'high risk' of leaving in their first term, were counselled. All completed their degrees within the expected timeframe. Another small group of final-year

undergraduates, who had been counselled in their first year at university, was also studied. All completed their programmes successfully with no resits required.

However, **Elliott (1997)** offered a less positive view of counselling. He studied students at Curtin University who withdrew very early in their first year of study. His findings showed only a few had discussed their decision to withdraw with university counsellors. His findings are similar to those of McInnis et al. (2000a), which are discussed in the following section.

Student use of services provided

There is some conflicting evidence about the use of these services and facilities. McInnis et al. 2000a) found that "without student services, over one in five students (and nearly one in three with special needs) might have dropped out of their courses" (p. 53). A number of other studies also identified services and facilities as factors in the retention of students and in their performance (**Brackely, 1999; Forgasz, 1997; Turner & Berry, 2000; Wilson et al., 1997**). **Monk (1998)** found satisfaction with academic advising was significantly related to performance at black institutions and there is a positive relationship between students' opinions of the support they get and grade point average. **Walker (2000)** showed that academic and personal support from Indigenous Centres was a resilience factor for indigenous students, **and Krishnamurthi (2003)** found a need for more financial aid, advising and mentoring services to support diversity and multicultural initiatives on a Northern Illinois campus. **McInnis et al. (2000b)**, from their major Australian study, provided a sense of the most important services by usage: employment services (81.9%); information services (80.9%); facilities (79%); health and medical (72.1%); learning support services (70.5%); student association services (68.4%); financial assistance (68.3%); and counselling services (66.7%).

In contrast, there are data suggesting that, although students seem to know about them, institutional services and facilities are not well used. The following table, showing the percentage of students using each facility, is from **McInnis et al. (2000b,** p. 50).

Service	%	Service	%
Child care	1	Support for international students	2
Pastoral/religious care	2	Women's resource/support centre	4
English language resource/support services	3	Student housing service	7
		Employment service	12
Financial aid	4	Study skills assistance	14
Counselling service	7	Student union clubs	23
Health Service	9	Student union sports facilities	26
Library support service	40	Student union cafeteria/catering service	64

Elliott (1997) found that when students were making decisions about withdrawal parents, other family members and friends were much more likely to be consulted than academic or counselling services. **Bers and Nyden's (2000–2001)** research into 'disappearing students' revealed that many of their reasons for leaving were outside institutions' influence. Arguably, in these cases institutional services and facilities may not have prevented them from 'disappearing'.

Despite this apparent lack of use, **Astin (1996)** argued strongly for the provision of institutional services. His research revealed student services expenditure "has direct positive

effects on a number of student outcomes", for example, in measures of satisfaction and in academic outcomes such as degree completion. He argued that institutions could strengthen their educational effectiveness by reallocating resources to student services: "… modest increases, in absolute terms, … could yield significant educational benefits for students" (p. 129).

It seems that although services may not be widely used by students, when they are used they have a positive effect on retention and achievement. Perhaps the move to integration suggested Hinton and Tickner and Dolence above is one way of enabling more students to make use of services that will provide them with the support they need to persist and achieve.

3.3.9 Proposition 11: Supplemental Instruction is provided.

Defining Supplemental Instruction

For this synthesis we have defined Supplemental Instruction (SI) as organised efforts to improve the academic outcomes of enrolled students. SI forms part of a student's chosen programme of study, or are studied simultaneously with that programme. We have, therefore, excluded pre-admission bridging, foundation and transition programmes but have included an extended orientation courses (**Williford et al., 2000–2001**). We also include some programmes that involve peer tutoring and/or mentoring as SI, although these are discussed in more depth in Proposition 10. We found 14 studies of SI, 8 from the USA, 5 from Australia, and 1 from New Zealand. We note the absence of studies from the UK.

SI was developed in the 1970s in the USA and has been widely recognised by American policy makers as meritorious. It is used in approximately 300 institutions of higher education in the USA and in 12 other countries (**Etter, Burmeister and Elder, 2001**). SI is different from tutoring and remedial assistance because it:

- identifies high-risk *subjects* instead of high risk *students*
- integrates the development of study skills within an academic subject
- is voluntary and open to all students
- has SI leaders who are trained in teaching and learning theory and attend all the lectures
- has SI leaders who facilitate group study and problem solving rather than act as an authority figure and re-lecture the subject matter (McInnis et al., 2000a, p. 57)
- is conducted from the first week of the semester before students encounter academic difficulties
- is supervised by a trained academic staff member
- provides training for SI leaders in collaborative learning methods (Couchman, 1997).

Positive effects

Our synthesis of studies shows that early academic success leads to improved student outcomes such as retention, achievement and graduation and that SI is one way of ensuring early academic success. All the nine studies synthesised report the SI programmes have positive effects on student outcomes. Although one study admitted to some variation across

the 10 years the programme had been implemented, their results still indicated overall improvement in academic performance, retention and graduation rates (**Williford et al., 2000–2001**). Many studies reported both higher grades and decreased attrition (**Etter et al., 2001**; **Zeegers & Martin, 2001**). **Treisman (1993)** went so far as to claim enthusiastically "a dramatic effect both on mathematics performance and on persistence rates" (p. 2). Couchman reported 800% more high-distinction passes and an overall increase of 16% in the pass rate than a previous cohort. **Johnson (2000–2001)**, however, sounded a note of caution. In her evaluation of four retention programmes at the University of Southern Maine she found that the two using learning community approaches were more effective at retaining students than less structured approaches. This suggests that SI programmes may benefit from deliberate development as learning communities.

Supplemental Instruction and different subjects

SI has been used successfully across a range of subjects: commerce, business and accounting (**Beasley, 1997**; **Couchman, 1997**; **Etter et al., 2001**; **Wolfe, 1996**); mathematics (**Treisman, 1993**; **Wolfe, 1996**); sciences (**Wolfe, 1996**; **Zeegers, & Martin, 2001**); and social sciences (**Wolfe, 1996**).

Supplemental Instruction and diversity

SI has also been successful in retaining and improving the grades of traditionally under-represented groups and international students. **Reyes (1997)** reported SI has been successfully used to retain African American students. She described a university 101 course that has been offered at the University of South Carolina at Columbia since the 1970s: in 1995 84% of Black students who took University 101 returned for the sophomore year compared with 79% who did not take the course. **Beasley (1997)** described a programme at Murdoch University that targeted two Commerce units known to be problematic for many first-year students and drew a majority of overseas students – both as tutors and tutees. Final course grades showed students achieved good grades, the majority being credits or higher. **Zeegers and Martin's (2001)** study, showing an improved pass rate and decreased attrition rate compared with the previous cohort, included many non-traditional students of science, such as those who had no appropriate prior science studies or who had entered university through special entry schemes.

Related programmes

We located other studies that, while not strictly SI studies, share some of the characteristics of SI. **Mangold et al. (2002–2003)** evaluated a first-year block registration and mentoring programme at a USA university. The programme went beyond SI in that it focused on social support as well as academic achievement. They noted with concern that the students self-selected, but this is an important aspect of SI (**Couchman, 1997**; McInnis et al., 2000a). Their analysis showed the programme had a positive impact on graduation and persistence. **Brackley (1999)** is important to this synthesis because he described a New Zealand pilot project designed to improve students' writing for exam essays in a business course. Rather than being voluntary and available to all students, it targeted those who had borderline or fail grades in a previous term's test. Many of the students were from non-English speaking backgrounds. Results showed that of those who attended all five sessions 100% passed the

essay writing section of the exam; whereas 70% of those who came to only one or two of the sessions failed.

Another aspect of SI worthy of note is the number of institutions overseas that are now offering credit bearing courses that serve the purposes of SI. **Astin (1996)** referred to these as 'Freshman 101' and points to the ways they support students' academic and social integration. The positive impact of University 101 (**Reyes, 1997**) was discussed above, and Lake (1998) described the success of Murdoch University's Unit A120 Introduction to University Learning.

This synthesis shows that Supplemental Instruction offers a valuable strategy to increase student outcomes across diverse groups of students and a range of subject areas. It has much to offer tertiary education in New Zealand.

3.3.10 Proposition 12: Peer tutoring and mentoring services are provided.

The work of **Tinto** (1975, 1993, **1997**) has alerted researchers of student departure to the fact that a student's social and academic integration into an institution is important in achieving positive outcomes. While not all empirical outcomes research supports his contention (Braxton & Lien, 2000), studies contributing to our synthesis do. Peer contributions to both academic and social integration seem to be important in achieving positive student outcomes. Indeed, **Astin (1996)**, reporting on his major multi-institutional study in the United States, observes, "perhaps the most important generalization to be derived from this massive study is that the strongest single source of influence on cognitive and affective development is the student's peer group" (p. 126). Peer group tutoring and mentoring emerges as a useful tool in the integration process. In Propositions 8, 9, and 10 we synthesized studies showing that orientation courses, Supplemental Instruction and learning communities helped to improve student outcomes. Peer group mentoring and tutoring can play a significant role in many Orientation programmes (**House & Kuchynka, 1997**; **Molivar, 1996**; **Peat et al., 2001**; **Rickinson & Rutherford, 1996**; **Treisman, 1993**; **Williford et al., 2000–2001**; **Wilson, 2002**), Supplemental Instruction (**Beasley, 1997**; **Couchman, 1997**; **Etter et al., 2001**; **Wolfe, 1996**; **Zeegers & Martin, 2001**), and learning communities (**Baker & Pomerantz, 2000–2001**; **Kozel, 2002**; **Martinez & Munday, 1998**; **Tinto, 1997**; **Zeegers, 1999**). In Proposition 12 we synthesize studies discussing the impact on outcomes of peer mentoring alone. We have used 10 studies in this synthesis – 4 from the USA, 4 from Australia, 1 from the UK and 1 from New Zealand.

Peer tutoring and academic integration

Peer tutoring and support to help the academic integration of students usually focuses on specific subjects. It often involves returning students offering tutorial assistance in a subject. **Couchman (1997)** reported greater retention and achievement of students receiving peer tutoring in the Faculty of Commerce at an Australian university when compared with a control group. **Beasley (1997)**, reporting on a similar intervention in Commerce subjects at an Australian university, described how peer tutors were selected from among better returning students and how they received instruction in how to mentor first-year students. It was made clear that mentors were facilitators and guides who helped students troubleshoot, not front-line teachers. Beasley reported that in general students in the programme achieved good

results, "the majority being credits or higher" (p. 6). Also from a Commerce Faculty, this time in a New Zealand polytechnic, **Kozel (2002)** reported on a similar project to support new students by using more experienced peer tutors. Here each peer tutor mentored a small group of students. They were to foster a sense of belonging in new arrivals, provide vital orientation information, and facilitate initial contact between students from which study groups could emerge. Peer tutors received some training and were supported by teaching staff. Unfortunately no outcome results are available from this study. However, surveys of both mentors and those mentored suggest the project helped to create a sense of unity within the faculty and that both mentors and those mentored wanted it continued. In short, it helped new students to integrate into the faculty.

General peer mentoring

Peer mentoring has also been used in a more general way to help new students integrate into university life. Anne Arundel Community College used more experienced peers to provide support in a variety of courses. The intervention involves regularly scheduled study sessions between mentor and student. The mentors demonstrate and assist with study strategies such as collaborative problem solving and graphic representation of abstract concepts. Peer mentors enrol in a training course that gains them academic credit and are paired with an experienced teacher who advises on issues that arise. **Wolfe (1996)** found the intervention led to significantly better retention rates and grades compared with those who did not. **Dixon and Gudan (2000)** reported on a study that measured the impact of peer-assisted learning (PAL) on student academic performance. Results of evaluations showed PAL participants had a significantly higher course success rate than non-participants, and a significantly lower withdrawal rate compared with non-participants.

The evidence that peer mentoring and tutoring improves student outcomes is strong. We draw this conclusion not only from the studies of peer mentoring examined in Proposition 10. We also draw on our syntheses of studies on orientation, Supplementary Instruction and learning communities. Many of these studies also suggested ways of ensuring peer mentoring success (Chapman & Kahrig, 2000–2001; **Etter et al., 2001; Kozel, 2002; Peat et al., 2001; Rickinson & Rutherford, 1996; Williford et al., 2000–2001; Wolfe, 1996; Zeegers & Martin, 2001**). These include adequate training of peer mentors, readily available support and advice from teaching staff and some kind of reward for services rendered. Training ranged from short seminars to more extensive credit bearing courses. Rewards included certificates, documenting service in transcripts and references and small cash payments.

3.3.11 Proposition 13: The institution ensures there is an absence of discrimination on campus, so students feel valued, fairly treated and safe.

Discrimination was not directly researched in any of the student support studies we located. However, it emerged as a factor in a number of retention, persistence and withdrawal studies – with sufficient frequency and strength that we felt it warranted a proposition. It may be that forms of discrimination are disguised in some studies as, for example, 'social isolation', 'alienation', 'difficulty making friends', 'not belonging', even 'feeling homesick'. While much of the discussion of discrimination refers to students' ethnicity and cultural background, a few studies identified discrimination on the basis of gender, sexuality or disability.

We found 12 studies that identified a link between students' experiences of forms of discrimination and their outcomes: 7 from USA, 2 from Australia, 2 from the UK, and 1 from Canada.

Valuing diversity

It is clear from the studies that the climate created within an educational institution can impact on student outcomes such as retention and withdrawal. At a time when students are increasingly diverse, it is important that institutions create climates that welcome, accept, respect, affirm and value this diversity – what Bloomer and **Hodkinson (1999**, p. 113) refer to as 'an accepting culture' or 'ethos', (See Proposition 15). This requires institutions to be inclusive, supportive, and respectful of difference and personal preference. Where this does not happen, discrimination, in various forms, may occur.

Schulte, Thompson, Hayes, Noble and Jacobs (2001) explored faculty and student perceptions of what they called the 'ethical climate' and its importance in retention. They developed a set of ethical climate index items, some of which include aspects of discrimination. For example, 'faculty members discriminate against students on the basis of race or ethnicity'; '… on the basis of gender'; faculty members respect the cultural backgrounds of all students'; 'professors accommodate students with special needs'; 'faculty members treat students with respect'. They found that "… students perceived the ethical climate to be an important to very important factor in the retention of students within undergraduate academic programs" (p. 570).

Gardiner (1994), drawing on hundreds of studies conducted in the USA, reported some chilling statistics on discrimination against women and minorities. He cited studies that reported 40% of undergraduate women report being sexually harassed on campus and 34% reporting harassment from an institutional authority. As a result, women "devalue and doubt their own abilities and reduce their expectations for their careers and lives" (pp. 79–80). Similar findings apply to minorities. Gardiner (1994) cited the finding from a large study conducted at eight Ivy League institutions that found "of 3119 students…73% of all respondents and 81% of African-Americans perceived racism as a problem on campus" (p. 81). Another study reported 50% of minority and international students had heard faculty members make racist comments. According to Gardiner, these experiences impact on students' ability to achieve. His finding is supported by a more recent study of prejudice and discrimination at 18 institutions on the adjustment of 1454 students (**Cabrera, Nora, Terenzini, Pascarella & Hagedorn, 1999)**. They found that perceived discriminatory behaviour negatively affected students' academic/intellectual development.

Schwartz and Washington's (1999) study of 213 African-American women students' retention and success in an historically black liberal arts college presents an interesting alternative view. They found that "it is not enough to provide a homogeneous setting in which racial conflict is minimized. It is also important to ensure that students are supported, encouraged and socially adjusted early in their college career" (p.187).

Bailey et al. (1998), identified a 'campus community factor' that included 'how well university provides a safe campus environment', 'incidents of racial prejudice seldom occur on campus', 'most students feel a sense of belonging' and 'I feel free from harassment on

campus'. They found a significance difference between persisters and non-persisters in their responses to campus community factor questions, suggesting experiences of discrimination may influence students' decisions to withdraw. Similarly, in their study of the impact of learning communities on retention **Baker and Pomerantz (2000–2001)** identified a student satisfaction item 'there is a strong commitment to racial harmony on this campus'. **Walker (2000)** found factors impacting negatively on 268 indigenous students' retention and success included 'cultural insensitivity by staff' (mentioned by 37% of students); 'unwelcoming university environment' (22%); and racism on campus (18%). **Monk (1998)**, in her synthesis of studies on the academic achievement of African-American males, reported research carried out by Jackson and Swan in 1991 that found there was a statistically significant relationship between feelings of alienation and academic achievement. **Krishnamurthi (2003)** assessed multicultural initiatives in one USA university. He reported that "one of the consistent findings … was the students' valuing of diversity and multicultural issues on campus" (p. 274).

A sense of presence

Padilla et al. (1997) studied the strategies developed by successful minority students to overcome barriers to academic success. They identified four types of barrier, one of which was 'lack of presence'. This lack of presence took several forms, for example, 'lack of minority issues or materials in the curriculum', 'lack of visibility of minority support programs', 'cultural isolation', 'lack of minority role models or mentors' and 'racial isolation'. **James' (2001)** study of the characteristics of Native Canadian programmes that influence Native student success in 27 colleges and universities in Canada also identified this sense of presence. He found the presence or absence of Native faculty members and Native community members on advisory boards were significant predictors of Native student success. **Walker (2000)** also found indigenous students were "more likely to withdraw if their course was culturally inappropriate" (p. 3).

Fairness

Berger (2001–2002) identified ten empirically based recommendations to improve retention. The third of these was "provide a campus environment characterized by fairness towards students" (p. 15). Likewise **Bailey (1998)** found that faculty who are fair and unbiased positively influence student retention. In her study of tertiary mathematics learning environments, **Forgasz (1997)** found some evidence of gender discrimination in one department. She suggested this might partially explain why it had the lowest proportion of females in its mathematics cohort – women leaving as a result of discrimination.

Safety

Where the institutional climate is accepting and affirming, and where minority students feel they have a presence on the campus and in the curriculum they are more likely to feel safe and, consequently, to achieve. **Yorke's (1998a)** study of non-completion in the UK identified an additional safely factor: 'fear of crime' was a factor in students' decision to withdraw.

A synthesis of these studies suggests students' outcomes, particularly those of minority students, are likely to be improved when an institution creates a climate that welcomes and values diverse students; acts to prevent all forms of discrimination and harassment; ensures

minority groups have a presence in the curricula, on advisory boards, in the faculty as role models and mentors; and establishes a physically and psychologically safe environment.

3.3.12 Proposition 14: Institutional processes cater for diversity of learning preferences.

Authors in Braxton's (2000) edited book critique Tinto's assimilationist solution to the student departure puzzle. While a number of authors merely wanted to adjust Tinto's model, others wanted to depart from it. To them retention was not how the student can be made to fit a teaching programme but how a teaching programme might adapt its ways to the needs of the student. Tierney (2000), for example, explained high completion rates of students in a special learning programme for minority students in terms of an individual's identity being affirmed, honoured and incorporated by the programme. In the same book, Braxton and Lien (2000), although generally supportive of Tinto's model, nevertheless found uneven empirical support for Tinto's claim that the degree of academic integration is a powerful factor in determining whether a student left or stayed. **Brunsden, Davies, Shevlin and Bracken (2000)** used path analysis to test Tinto's model of student attrition. They found that his integrationist explanations might not be the most appropriate for attrition research. In a relatively modest Australian study researching predictors of academic success in selected subjects, **McKenzie and Schweitzer (2001)** found students who indicated a high level of integration tended to have poorer GPAs than students indicating low levels of integration. As acknowledged earlier, the empirical research literature on institutional change is not as voluminous as that on integration. It certainly does not overturn the notion that academic integration is a key factor in persistence and success. Nevertheless we are able to synthesise outcome studies that suggest solving the departure puzzle will oblige educators to look beyond integration. We have divided the evidence for this proposition into two parts. In the first, institutions adapt their practices to enable diverse student experiences. In the other they cater for the learning preferences of diverse students. We have synthesized 18 studies for this proposition – 8 from the USA, 4 from the UK, 7 from Australia, and 1 from New Zealand.

Changing the academic experience

Over a period of years now, **McInnis** and his numerous co-authors in various Australian studies (**1995, 2000a&b, 2002**) have noted major change in the way students engage with their tertiary education. McInnis and James (1995), for example, suggested students increasingly expect the institution to fit with their lives rather than the other way around. In his inaugural professorial lecture, McInnis (2001) explored some reasons and implications for this change. He noted a change in the pattern of attendance, with more full-time students being involved in significant work for pay outside the university. More than one-third of students, he suggested find that their employment gets in the way of their studies. Their social life seems no longer to be connected with their academic life at university. New technologies increasingly impact on their lives and how they learn. Indeed, he argued that there has been significant change in the way students perceive their university experience:

> *At least part of the problem in responding to these changes is the deeply embedded notion of the 'ideal undergraduate student' and a somewhat romantic notion of the student experience that simply ignores the new realities of student choices, flexible delivery, the pressure to respond to student markets in the face of the decline in government funding, and the competition from diverse, well resource and highly creative alternative providers* (p. 4).

In answer to these issues, McInnis (2001) suggested universities need to change the way they manage the undergraduate experience. He suggested a tighter, more coherent yet relevant curriculum, small-subject focused and organised learning communities that operate in and out of the university, and support structures that enable students to stay connected with their outside worlds.

We have found a number of studies that support and expand on McInnis' ideas. **Hammer, Grigsby and Woods (1998)** investigated conflicts between work, family and study in an American State University. While not strictly an outcome study, it found students who perceived the university as providing effective learning support reported the lowest level of work-university conflict. They echoed McInnis in that they too suggested reshaping university practices, particularly in relation to timetables and flexible work schedules. **Schroeder (1996)** synthesized 125 studies on the effect of diversity projects on student outcomes. He reported that diversity projects, like reforming curriculum to be more inclusive of student needs, funding outreach initiatives and fostering a culture putting a high value on diversity, positively affected student outcomes. **Spours (1997)** investigated how 5 Further Education Colleges around London perceived the student retention issue, what they were doing about it and what inhibited outcomes. He deliberately focused on identifying institutional capabilities to address the student departure puzzle. He found staff and students, as well as staff and management, perceived retention issues differently. The resulting tensions dampened institutional capabilities. His suggestion for building them involved unity of purpose to develop retention strategies that are academic rather than finance or administration driven. **Heverly (1999)**, in her study of departure in an American Community College, echoed the theme of institutional change. To enhance retention, institutions must change their processes so that financial services, procedures for adding and changing courses and academic advice are easily available and offered in non-bureaucratic ways.

We found two qualitative studies that imply major academic changes in the way higher education operates. In the United Kingdom, **Mackie (2001)** researched withdrawal behaviour in one university. She found current social, organizational, external and personal forces both enable and constrain academic integration, and concluded that the difference between leavers and stayers lies in the students' motivation. In the case of the leavers, traditional institutional processes do not sufficiently engage residual motivation. While she offered no specific solutions, Mackie's study suggested educational processes need to change to enable rather than to constrain inherent motivation of students to stay. **Padilla et al. (1997)** investigated how minority students might better achieve successful outcomes. They identified the influence of two kinds of knowledge. One, theoretical knowledge, is learned through course work and formal study. The other, heuristic knowledge, is locally defined and acquired experientially. In their small qualitative study they identified four major barriers to success: discontinuity, lack of nurturing, lack of presence of minorities in the institutional culture, and lack of financial resources. The researchers concluded that to overturn these barriers successfully requires more local heuristic than generalised theoretical knowledge. They suggested institutions should do more to identify, honour and provide for the acquisition of local, heuristic knowledge.

Changing the learning experience

Gardiner (1994) claimed that "rather than adapting to our students, we demand that they adapt to us" (p. 83). This results in treating all students the same – with the same learning preferences. We found a small number of studies with some evidence that where institutions try to meet student learning preferences, outcomes may be improved. Student learning preferences, however, are conceived in different ways. **Lizzio et al. (2002)** and **Laing and Robinson (2003)** focused their studies on how the teaching-learning environment affects student outcomes. In a fairly large study, Lizzio et al. investigated how Australian university students' perception of their academic environment affected academic outcomes. They found that where their perceptions of the academic environment matched their approaches to learning, student outcomes such as satisfaction, GPAs and completion improved. Laing and Robinson, in a smaller qualitative study in the United Kingdom, found that how well students felt their own learning preferences matched their learning environment, affected retention. Where students believed their preferences were accommodated, they tended to stay; where the belief was to the contrary, they were more inclined to leave.

Garton, Dyer and King (2000) investigated how to predict retention in an American Agricultural university by investigating the effects of learning outcomes. They found that where teaching catered for field-independent learning style preferences, retention was improved. They reported that field-independent learners are more likely to favour teaching that calls for individual effort and study, for developing their own approaches to learning. This suggests encouraging self-direction in problem solving is a useful teaching strategy to improve retention. Indirectly, a study by **Roth and Weiner (1996)** supported that finding. They found the retention of students in a New York university science programme, who had been taught self-directed problem solving, was significantly better than among students who had not been taught this programme. Our one New Zealand study (**Moore et al., 1995**), on the other hand, found little support for the notion that catering for certain learning styles influence learning outcomes. Moore et al. found in an experimental study involving 220 students in a laboratory class, that the outcomes for students working in a cooperative environment were relatively similar to students working in an autonomous environment.

Catering for learning preferences as a way of achieving better outcomes emerges also from investigating minority student outcomes. While 'minority' is defined variously in the literature, we use the term here to refer to students who are not white. Gardiner (1994) accused universities in the United States of developing content of programmes and processes of teaching on the basis of Anglo-European notions about thinking and learning preferences. We have found some evidence that reversing this way of thinking affects outcomes of minority students generally. For this proposition we bring support to the idea that catering for minority students' learning styles will improve retention. Sanchez (2000) and **Szelenyi (2001)** found that minority students, in their American Community College samples, exhibited different motivational, task engagement and learning strategies. Their findings suggest that by meeting student learning preferences, institutions will improve retention among minority students. Using a case study and action research approach, **Rabbitt (1999)** described improvements in retention when teachers set out to accommodate learning style preferences of aboriginal students completing an external mainstream course.

The output literature on learning styles is as yet thin and seemingly contradictory. While general studies suggest emphasis should be on field-independent learners who prefer self-directed problem solving, literature that addresses outputs for minority students seems to suggest more collaborative and holistic approaches. In the context of this proposition, changing academic processes, there seems to be no contradiction at all. To us, the evidence supports two subtexts: that academic change best integrates collaborative and problem-based learning, reducing reliance on transmission modes of teaching.

3.3.13 Proposition 15: The institutional culture, social and academic, welcomes diverse cultural capital and adapts to diverse students' needs.

In this proposition we again depart from the assumption of assimilation in Tinto's model of institutional departure. Rather than require the student to adapt to the institution's culture, recent theoretical and empirical studies support the idea that the institution should also adapt to the cultures of its minority and non-traditional students.

> *Rather than a model that assumes that students must fit into what is often an alien culture and that they leave their own cultures, I argue the opposite. The challenge is to develop ways in which an individual's identity is affirmed, honored, and incorporated into the organization's culture* (Tierney, 2000, p. 219).

We found 7 articles that informed this proposition: 4 from the USA, 1 from the UK, 1 from Australia, and 1 from New Zealand. A number of more theoretical articles are also discussed as they lay a foundation for an emerging set of ideas becoming evident in the research studies.

Institutional culture and cultural capital

According to Kuh and Love (2000, p. 198) institutional culture refers to " … the collective, mutually shaping patterns of norms, values, practices, beliefs and assumptions that guide the behavior of individuals and groups … and provide a frame of reference within which to interpret the meaning of events and actions on and off campus". It includes social, academic and organisational subsystems that impact on students' outcomes (Berger, 2000). Cultural capital is understood as one type of class resource base, a symbolic rather than material resource that includes, for example, informal interpersonal skills, habits, manners, linguistics, educational credentials, lifestyle preferences (Berger, 2000) conceptual knowledge, particular speech patterns (Gardiner, 1994) and culturally specific learning tools (Sanchez, 2000).

Tertiary students arrive at an institution with particular cultural capital or 'familial habitus' (**Thomas, 2002**). Where this is valued and fits with the existing institutional culture they are more likely to be congruent, accepted and to achieve, to be like a "fish in water" (**Thomas, 2002**, p. 431). Where it is not valued or accepted, where their cultural practices are deemed inappropriate, incongruent (Berger, 2000) deficient or invalidated (Sanchez, 2000), they are more likely to experience acculturative stress (**Saenz, 1999**), discontinuity (**Padilla et al., 1997**), to be unable to use their cognitive assets (Gardiner, 1994) to "feel more like 'a fish out of water', and thus to return to their familiar habitus", that is to leave (**Thomas, 2002**, p. 431). Berger (2000) summarises: " … those students who lack the requisite cultural capital may have a hard time or be unable to fully integrate because their frame of reference is just too different form the organizational habitus and the habitus of the dominant peer group on campus" (p. 108). In order to succeed they must "act white" (p. 222). **Padilla et al. (1997)** found that successful minority students possess both theoretical knowledge, learned through

coursework, and heuristic knowledge, which is acquired experientially. Arguably, institutional culture forms part of this untaught, heuristic knowledge. It is important to note Berger's (2000) claim that "there has been no research on the effects of students' initial levels of cultural capital on retention" (p. 111).

Institutional culture and minority students

Institutional culture is experienced at several levels – social, academic and organisational (Berger, 2000). Walker's major study of indigenous performance in Western Australian universities considered all three of these levels. She reported many students found their experience to be assimilationist. This often led to them resist the culture of the institution and the content of their programmes in order to achieve their educational goals without compromising their cultural value or identity. Examples of their comments include: "How could the course be culturally appropriate when there wasn't even any Aboriginal teachers?"; "Course was very theory based. However the theories are Anglo Saxon-based and contain little pertaining to Aboriginal people"; "Individuals within the School can be excluded if they do not fit the 'mainstream mentality' – also the fierceness and competitive nature of ambitious students can overpower others". Each of the three levels of institutional culture impacted on student outcomes such as retention and course completion.

Thomas (2002) conducted a study in a UK university that has good indicators for widening participation and increasing diversity and has a good retention rate. Her study also addressed the three levels of institutional culture. She found that "the notion of an institutional habitus that is accepting of difference, and which facilitates greater match with the familial habituses of students from different social and cultural backgrounds goes some way to explain higher rates of students retention …" (p. 438). **Richardson and Skinner (1990)** developed a model of institutional adaptation to diversity from their ten university case studies. The resulting adaptation of organisational culture led to improved participation and graduation for minority students. This finding was supported by **Hrabowski's (1999)** study in one institution. When minority achievement and diversity were embedded as part of the core values of an institution, the academic achievement of African-American students was enhanced. Studies into achievement at historically black colleges and universities (HBCUs) show that they have good outcomes. Wyche and Frierson (1990, cited in Gardiner, 1994) provided data that showed HBCUs are responsible for graduating a high percentage of the African-American students who go on to complete PhDs. Watson and Kuh (1996, in Baird, 2000, p. 73) found that "historically Black institutions provide Black students with a developmentally powerful educational environment".

Padilla et al. (1997) studied the strategies successful minority students used to overcome the barriers to their academic success. The barriers they identified included a sense of discontinuity, a lack of nurturing, and a lack of presence of minority issues, materials and role models. These barriers reflect the institutional culture and its effects on even successful minority students.

In the New Zealand context **Bennett (2001)** found that when students had a high cultural identity as Maori it mediated the impact of academic problems and helped them maintain their educational outcomes. He argued that these findings justify the investment of university resources into facilities such as study rooms and tutorial groups for Maori because these will

assist in the development of a Maori cultural identity in an academic setting. He also suggested that this identity might give them access to a network of social support that can buffer them against the detrimental effects of stress and problems. This finding may link to Valentine's concept of biculturation (in Rendon et al., 2000).

Other studies highlighted the negative impact of institutional culture for minority students. Tierney (1992, in Kuh & Love, 2000, p. 204) found that "for many Native American students, the values of traditional American higher education (e.g. individualism, competition, autonomy, challenging authority) are counter to the values of their tribes' cultures". Arnold (1993, cited in Gardiner, 1994) explored the effects of institutional culture on a small group of gifted minority students. Even they told of neglect, low expectations from teachers, discouragement and demeaning behaviour from staff, causing Arnold to report that higher education failed even the best African-American and Mexican-American students. Steele (1992, in Gardiner, 1994) reported that a far higher percentage of African-American students withdrew from 4-year colleges compared with white students, and that those with high SAT scores were just as likely to drop out as those with lower scores. He found "an unsupportive campus climate is a major course of minority-group students' withdrawal from college" (Steele, 1992, cited in Gardiner, 1994, p. 83).

Baird (2000) discussed several studies that showed how a negative climate is related to minority students' alienation and poor academic performance. Watson and Kuh (1996) found the college environment has a significant influence on virtually all student outcome measures, personal to cognitive.

As long ago as 1989 Smith (cited in Gardiner, 1994, p. 83) was writing "evidence is growing that the poor quality of minority students' life on campus and their sense of isolation, alienation, and lack of support are serious factors in attrition".

Dealing with personal and institutional cultures

When students attend institutions they bring with them their own habitus and cultural capital. Within the institution they experience multiple, overlapping cultures. Kuh and Love (2000) refer to these as the 'cultures of origin' and the 'cultures of immersion'. Minority students in Euro-centric institutions often experience culture loss or culture shock (Rendon et al., 2000) and see the institutional cultures as alien, isolating and assimilationist **(Walker, 2000)**. Some studies suggest that, in order for them to succeed, minority students need to abandon their cultural background and adapt to the institutional culture (Tinto, 1987, cited in Rendon et al., 2000). Two alternative views are evident in Rendon et al. (2000). They cited Valentine's bicultural educational model, which shows that minority students can be simultaneously socialised in two different cultures, and de Anda's concept of dual socialisation, which is made possible when an overlap between the two cultures is fostered. They also report a 1995 study of Latino community college students by Jalomo's which showed they could operate across two cultures. He recommended that, "individuals not totally separate themselves but instead be supported to transit between two cultures" (Rendon et al, 2000, p. 137).

Transformed institutions

The emerging view of institutional culture and cultural capital connects with de Andra's concept of dual socialisation. Instead of requiring students to separate from their old world, and their cultures of origin, in order to become an incorporated member in a new one, their culture of immersion, dual socialisation converges the two worlds, allowing students to function effectively and less stressfully in both. "This requires changing, indeed transforming, the academic and social culture of institutions of higher education to accommodate culturally diverse students" (Rendon et al., 2000, p. 136). In **Walker's (2000)** words, "Universities need to create an environment in which academic staff and curriculum cater for the academic and demographic diversity of Indigenous Australians, foster cultural inclusivity and recognise their distinctive rights and interests" (p. 3).

This transformation needs to affect the social, academic and institutional levels of culture. It will transform the norms, values, practices, beliefs and assumptions that guide the behaviour of individuals and groups within the institution (Kuh & Love, 2000). It will influence faculty appointments, pedagogy, curricula, assessment, flexibility of systems, relationships between people within all sectors of the organisation, between staff, academic and administrative; between staff and students; and between students. It requires staff to be aware of their own identity and culture and the ways these impact on their work and to begin where students are, intellectually, socially and emotionally (Tierney, 2000). Indeed, rather than ignore or negate an individual's identity, "if we are to improve academic performance we should concentrate on the individual's identity and background" (p. 224).

The studies synthesised here reinforce the view that tertiary students are becoming an increasingly diverse group but that the achievement of minority students is often lower than traditional students. Studies have focused on ways to increase the retention and success of minority students. While Tinto's model of institutional departure is central to the majority of these, it assumes that students should be assimilated into the existing institutional cultures – academic and social. Recent theoretical and empirical work challenges this assumption. Rather than focus on the individual fitting the institution it suggests institutions should adapt to better fit the cultures of the students. It is our contention that the weight of evidence from these studies suggests that this emerging view is worthy of further research and action.

3.4 The Research Evidence from New Zealand and Implications for Policy

As a synthesis of more than one hundred studies from the United States, Australia and the United Kingdom does not necessarily demonstrate relevance for New Zealand, in this concluding section, we examine the relevance of our propositions for New Zealand. The first point of doubt must be the paucity of New Zealand studies. We only found 12 studies produced in New Zealand that could remotely be labelled output studies. (Bennett, 2001; Bennett & Flett, 2001; Brackely, 1999; Corballis, 1988; Dewart, 2003; Kozel, 2002; Leys, 1999; Malcolm & Cruickshank, 2001; Moore et al., 1995; Purnell, 2002; Selby, 1996; Wilson, 2002). Of these, we have used eight in our synthesis. Six are small-scale single institution studies explicitly using Tinto's integration model to justify their research design. A second

point of doubt lies in the fact that New Zealand's tertiary education system shows differences to those of the other jurisdictions.

For two reasons we believe the New Zealand studies, while small and few, provide a sound reference point for our propositions. First, our propositions 3 through 13 support the assimilationist Tinto model. So do six of the New Zealand studies we have used in this synthesis. Indeed we were amazed how well Tinto's model applies to the situation in New Zealand. True, the two 'emerging' propositions have found no similar theoretical New Zealand echo. However, the findings of Bennett (2001) and Bennett and Flett (2001) suggest cultural capital is just as important here as it is overseas. Second, only for propositions 4, 7, 11 and 13 did we find no explicit New Zealand support. However, propositions 4, 7 and 13 seem common sense and will find a ready resonance with New Zealand educators. Only proposition 11, 'supplemental instruction is provided' has no direct link with thinking in New Zealand. Yet the idea of providing students with extra support to improve outcomes does not seem so alien. In short, we are convinced that the 11 propositions based on Tinto's model have validity in the New Zealand context and the recognition and valuing of 'minority' cultural capital is important here too, thus supporting propositions 14 and 15.

PART FOUR: SUMMARY AND RECOMMENDATIONS

4.1 Introduction

This project was commissioned by the New Zealand Ministry of Education as the first of a series of syntheses of research on tertiary education. The initial brief required the team to prepare an overview of the research on teacher/educator and learning environment factors that affect student outcomes in undergraduate tertiary study. The team reported on this task in its first phase report (Prebble et al., 2002). In that report we noted that the field is an extensive one and has been the subject of numerous, comprehensive research syntheses both general and targeted. We suggested that, in the second phase of the study, we should focus on two areas of activity where tertiary institutions are currently investing effort to improve their performance with a view to improving outcomes for students. These two areas were programmes and policies aimed at assisting academic staff in their development as teachers, and institutional efforts to improve the retention and academic success of students through the provision of institution-level support services.

In proposing these two foci we wanted to study activities and policies that were amenable to institutional policy and resourcing, as opposed to factors that lie largely outside the control of institutions (such as the background experience and attributes of students at admission) or that are focussed at the classroom or programme level and therefore also not as readily amenable to institution-level policy. At a time when the Government is seeking to exercise greater steerage over the tertiary sector, it occurred to us that there was greater scope for affecting change and improvement in institutional performance by concentrating on factors that are within the power of institutions to influence, rather than on those that are largely beyond their power to influence.

4.2 The Two Themes and their Challenges

An exploration of the research on these two areas found there was little overlap between the two fields.

The academic development field proved the most problematic to review or to synthesise. To begin with, the link between the efforts of academic developers to improve the practice of tertiary teachers on the one hand, and the learning experience of undergraduate students studying in these teachers' classes, will always be a tenuous one. We found just one or two studies that have made a serious attempt to study this complete link. Instead, we found a large and already well-reviewed research literature that examines the contribution of teaching to student learning, and a smaller and less well-reviewed research literature that examines the contribution of academic development to the beliefs, knowledge, values or performance of teachers. Reviewing the first body of literature was beyond the scope of our study and had been done comprehensively and repeatedly by others. Instead, we chose to study the way that this research has influenced the understandings and efforts of academic developers, and the ways in which their efforts have affected the knowledge, the attitudes and the behaviour of teachers. We restricted our synthesis itself to published research on this second body of

research literature: on the impact of academic development on teacher knowledge, values and practice.

Even with this more limited focus, we found much of the research on the impact of academic development on teaching was flawed. Most of the published literature is case study accounts of studies undertaken by academic developers concerning their own professional practice. There is little standardisation of the independent variables in the literature; there is such a wide variation in the academic development programmes being studied that it can be dangerous to generalise about other programmes on the basis of their outcomes. The dependent, or outcome, variables measured in many studies also tend to fall short of any rigorous standard of proof: most studies determine the impact of an academic programme by the self-reported opinions of the course participants; very few actually observe an impact on teaching practice.

The research literature of the impact of student support services on student outcomes is much stronger. While the research suffers from a similar lack of standardisation in the way services are defined and operationalised, the outcome measures are more robust. Measures of student retention and programme completion are relatively objective and tend to be collected in the normal course of business by tertiary institutions. Inter-institutional comparisons are sometimes difficult when the impact of other factors (such as variations in student background) is not adequately controlled. More commonly, comparisons are made with previous or parallel cohorts within the same institution. Most importantly, student retention, particularly of first-year students, has been a matter of growing concern for institutions and funding agencies on a global basis for a number of years. This concern has contributed to a large body of empirical work we were able to access.

In terms of the rigour of our analysis of the research, we consider we have adopted as much rigour as the literature allowed. This was not a meta-analysis in that we did not attempt to aggregate effect sizes across a range of studies. Strictly speaking, this was not a best evidence study either. Any attempt to apply rigourous methodological criteria on our selection from this disparate research would have resulted in the exclusion of all but a small handful of studies. In many cases, particularly with studies on academic development themes, effect sizes were not given, and the descriptions of the methodology were incomplete. We have elected to take a broader approach in our consideration of the research literature. Where the methodology was strong, we have given prominence to the studies and their findings. But we have also selected to retain a number of less robust studies where these suggest important trends or relationships.

4.3 The Propositions

The findings of the two research syntheses have been presented as a series of propositions for practice.

4.3.1 Academic development

The study comprised an overview of the lessons drawn by academic developers from the research on the impact of teaching on student learning, but restricted its propositions to the impact of academic development on teachers' knowledge, values and practice.

Our study of the research literature suggests two principal propositions concerning the relationship between academic development and student learning outcomes: good teaching has positive impacts on student outcomes; and teachers can be assisted to improve the quality of their teaching through a variety of academic interventions. The second principal proposition leads to a further five sub-propositions (2A-2E).

- Short training courses tend to have limited impact on changing teaching behaviour. They tend to be most effective when used to disseminate information about institutional policy and practice, or to train staff in discrete skills and techniques.
- The academic work group is generally the most effective setting for developing the complex knowledge attitudes and skills involved in teaching.
- Teachers can be assisted to improve the quality of their teaching through obtaining feedback, advice and support for their teaching from a colleague or academic development consultant.
- Student assessments are among the most reliable and accessible indicators of the effectiveness of teaching. When used appropriately they are likely to lead to significant improvements in the quality of the teaching.
- Teachers' conceptions about the nature of teaching and learning are the most important influences on how they teach. Intensive and comprehensive staff development programmes can be effective in transforming teachers' beliefs about teaching and learning and their teaching practice.

4.3.2 Student support

In this phase of the study thirteen propositions were derived from the research, ten offering ways of assimilating diverse students into existing institutional cultures, and three challenging institutions to change their policies and practices and adapt to the cultural capital brought by their diverse students.

Assimilation

- Institutional behaviours, environments and processes are welcoming and efficient.
- The institution provides opportunities for students to establish social networks.
- Academic counselling and pre-enrolment advice are readily available to ensure that students enrol into appropriate programmes and papers.
- Teachers are approachable and available for academic discussions.
- Students experience good quality teaching and manageable workloads.
- Orientation/induction programmes are provided to facilitate both social and academic integration.
- Institutions provide and foster academic learning communities.
- A comprehensive range of institutional services and facilities is available.
- Supplemental Instruction (SI) is offered for difficult subjects.
- Peer tutoring and mentoring services are provided.

Adaptation

- The institution ensures there is an absence of discrimination on campus, so students feel valued, fairly treated and safe.
- Institutional processes cater for diversity of learning preferences.
- The institutional culture, social and academic, welcomes diverse cultural capital and adapts to diverse students' needs.

4.4 Recommendations

This project focused on examining the empirical research evidence in the published research on student outcomes rather than the extensive normative and policy-based literature on these same themes. It would therefore be dangerous to launch too far in this latter direction at this final stage of the exercise. However, several recommendations flow directly from our study and they presented here for consideration.

For institutional and national policy on academic development

- Institutions should continue to invest resources in assisting their staff to develop in the professional practice of teaching. The research evidence does not strongly favour one methodology over another though it would suggest a variety of approaches would offer the best prospects for widespread change and improvement. These approaches would include any of the following: short courses for knowledge and skills acquisition; training and reflection within intact work groups; working with individual members of staff in a consulting or mentoring role; assisting techers to learn from the feedback on their teaching they receive from their students; and more intensive programmes of reflection and study on teacing and learning.
- In particular, the research would suggest an exclusive focus on short, skills-based courses is unlikely to lead to significant professional growth or to change at a work unit or programme level.
- A greater emphasis on assisting work groups to reflect collectively on their joint tasks would be supported by the literature.
- Evidence for the long-term impact of in-depth teacher preparation programmes for tertiary teachers is limited but promising. It is arguable whether the evidence is yet strong enough to justify a compulsory scheme for the entire sector. Continued encouragement for institutions to mount collaborative training schemes, and then encourage their staff to participate, would seem a more promising development, and would certainly provide a wider basis on which to evaluate the effectiveness of such training.

For institutional and national policy on student support

- Research indicates institutions can influence the assimilation, retention and course completion rates of their students by providing comprehensive and well-designed support services. However, the effectiveness of these efforts will be affected by the context in which the education takes place, and the qualities of ability, interest and effort students will bring to bear. Research indicates the factors affecting student retention are so complex it would be difficult to construct an equitable way to tie institutional funding to student retention.

- The Government and sector agencies should support initiatives to communicate research-proven principles of student retention to tertiary institutions, and to celebrate and highlight instances of best practice.
- With the increasing diversity of cultural and socio-economic backgrounds of tertiary students in New Zealand, greater attention should be paid to retention practices that adapt to this diversity rather than requiring all students to assimilate to a standard set of expectations.

For research on academic development and student support

- This study has identified a paucity of research being undertaken on the tertiary sector compared with the school sector. Any initiative to fund targeted research into key processes in the tertiary sector should be sustained over a period of several years to encourage the development of a continuing research interest and capability in this area.
- In particular, there is a need to undertake research into academic development and how it makes a difference to the teaching and learning experience of teachers and students.
- Tertiary institutions should be encouraged to view their academic development units as centres for research on teaching and learning as well as training and development. Such a development would increase the status and appeal of the academic development profession, as well as engendering a continuing commitment to informing practice with research.
- The research team identified several important contributors to student outcomes that lay outside our terms of reference but which would warrant closer study:
  - the influence of resource-based study (where the primary teaching and learning medium is a package of self-study material), flexible learning and online learning on student outcomes;
  - the influence of curriculum and programme organisation (e.g. integrated versus subject-based curricula; tutorial versus lecture presentation) on the student study experience and study outcomes;
  - the variety of approaches to supplemental instruction and their impact on both student retention and achievement;
  - the impact of targeting student support systems at particular cultural groups (e.g. international, Maori, Pasifika);
  - the impact of patterns of student resourcing on student outcomes, and especially the impact of student loans and part time employment; and
  - the effect the growing diversity of the tertiary student population (in terms of age spread, ethnicity and socio-cultural background) is having on student outcomes, and the extent to which the cultural capital that students bring with them to tertiary study is being acknowledged and valued within that education

At a meta-level, we also consider more research and inquiry needs to be carried out on the assumptions underlying outcomes-based research itself and their implications for policy. We were disappointed by the small number of published studies undertaken by New Zealand scholars and would encourage any efforts to encourage a greater sharing of best practice.

4.5 Conclusion

In this project we have been exploring two complex sets of factors that affect the study outcomes of undergraduate students. Our study of the first set of factors – the impact of academic development programmes on teachers and students – has been limited by the sheer complexity of the relationships among the variables and the difficulties researchers have experienced in exploring the causal links between them. Our findings and conclusions are necessarily influenced by the state of this research evidence and must remain cautious and conditional. Our study of the second set of factors – the impact of institution-level student support services on student assimilation, retention and programme completion – has been more straightforward. While student retention is a multi-causal phenomenon, the research does indicate the value and contribution of a variety of institution-level student support services.

What the two sets of factors have in common is the attention of both institutional leaders and national policy makers. Both represent a considerable draw on the current resources of most institutions. If the evidence justified it, institutions and funders would willingly divert more scarce resources to these services. The research evidence would seem to justify further attention and investment in student support services. While the evidence is less definitive on the effects of academic development, such evidence as exists is generally positive, and would justify continued development of academic development services.

PART 5: RESEARCH STUDIES USED IN THE SYNTHESES

Note: Only pieces of primary research have been included in this section. Secondary sources may be found in the References.

5.1 Academic Development

Barrington, E. (1999). Catching academic staff at the start: Professional development for university tutors. *HERDSA Annual International Conference*, Melbourne, Australia.

Keywords: *In situ* training/tutor training/ professional development programme.

Type of Study: Single institution quantitative and qualitative case study.

Methodology: Survey by questionnaire; interviews.

Size: 900 questionnaires sent out to 73 departments, 349 respondents from 50 departments; 17 tutors were interviewed.

Research Rigour: Inferential statistics; moderate positive effects.

Country of Origin: New Zealand.

Abstract: The study reviews the professional training for university tutors at the University of Auckland. They attend a formal programme (Tutor Training Programme). The survey provides responses from the tutors as to how they perceived the programme and how their departments viewed it. It would appear that the tutors did not need convincing, but some of the 'decision makers' at the departmental level did.

Bell, M. (2001). Supported reflective practice: A programme of peer observation and feedback for academic teaching development. *The International Journal for Academic Development, 6*(1), 29–39.

Keywords: Consulting/teaching improvement/teaching development programme/ professional development

Type of Study: Single institutional quantitative and qualitative study.

Methodology: Survey and study of reflective reports.

Size: 28 teachers over 2 years.

Research Rigour: Acceptable. Descriptive and inferential statistics.

Country of Origin: Australia.

Abstract: In this study the outcomes of the evaluation of a structured, peer-supported teaching development programme for academic staff are reported. Consultation occurs in the form of feedback on teaching and feedback on teachers' reflections. Key themes identified are the effectiveness of the supported reflective practice process, improvements to teaching practice, developing confidence and congruent espoused theory and theory-in-use, ongoing professional development and developing collegiality.

Bernstein, D. J., Jonson, J., & Smith, K. (2000). An examination of the implementation of peer review of teaching. *New Directions for Teaching and Learning, Fall*(83), 73–86.

Keywords: Consulting/ student learning/ teaching improvement/ reflective practice

Type of Study: Multi-institutional comparative study.

Methodology: Survey.

Size: Representatives from 12 universities.

Research Rigour: Acceptable. Inferential statistics.

Country of Origin: USA.

Abstract: In this paper the University of Nebraska at Lincoln's peer review project is described and critiqued as a guide to others planning on using the process. The study included representatives from 12 universities working on a generic model of peer interaction and consultation about the teaching of a course. There was focus on the teaching, student learning, and the impact on student motivation and faculty attitudes and practices.

Bourner, T., Cooper, A., & France, L. (2000). Action learning across a university community. *Innovations in Education and Training International, 37*(1), 2–9.

Keywords: *In situ* training/action learning/community

Type of Study: Single institution quantitative and qualitative study.

Methodology: Survey of use of action learning.

Size: Survey of all departments across all 6 faculties.

Research Rigour: Acceptable. Descriptive statistics and inferential data.

Country of Origin: UK.

Abstract: The study identifies the domains of applicability of action learning within courses of Higher Education and explores factors affecting the spread of this approach to learning across subjects at the University of Brighton, Bristol. Action learning is being used on 27 courses across all 6 faculties. Lessons that can be learned from this study is that there is great scope for the use of action learning in universities across the range of subjects, at different levels and through different modes of study. The main conclusion is that the adoption of action learning can be explained more convincingly in experiential than cognitive terms.

Brew, A., & Lublin, J. (1997). The longer-term effects of informal programs of teaching development. *Research and Development in Higher Education, 20*, 126–130.

Keywords: Short courses

Type of Study: Survey of a single institution**.**

Methodology: Questionnaire.

Size: 262 academics who had attended a training course over a 3-year period.

Research Rigour: Limited: the only measures of outcomes were trainees' perceptions of value and impact on practice.

Country of Origin: Australia.

Abstract: This study sought to gauge the impact of short-term and one-off academic development sessions on academic staff at Sydney University. 1945 questionnaires were distributed; 262 useable responses were received. Over 95% of respondents reported the courses had been of some positive value to them. 88% considered they had been able to use the ideas discussed either 'a lot' or to 'some' extent.

Chalmers, D., Smith, R., & Lam, P. (2002). A program of professional development in teaching learning strategies in context. Teaching and Learning in Higher Education: 2002 Symposium, National University of Singapore.

Keywords: *In situ* training/learning strategies/professional development program/teaching for learning/university teachers/teaching learning strategies/Hong Kong/Australia

Type of Study: Single institution quantitative and qualitative study.

Methodology: Survey, case studies and interviews.

Size: 3 cohorts of a total of over 60 university teachers.

Research Rigour: Descriptive statistics; moderate positive effects.

Country of Origin: Hong Kong and Australia.

Abstract: In a professional development project conducted over 3 semesters in 2000 and 2001, over 60 university teachers in a large Hong Kong university participated in a professional development program. Staff were from a variety of subject areas but within one division. The program was designed to provide the teachers with tools and techniques to teach learning strategies to students in their own courses. The paper reports on the positive outcomes of the program and identifies further work that needs to be done.

Coffman, S. J. (1998). Small group instructional evaluation across disciplines. *College Teaching, 46*(3), 106–111.

Keywords: Consulting/small group instructional diagnosis/student feedback/teaching improvement/professional development

Type of Study: Single institution quantitative study.

Methodology: Survey using small group discussion.

Size: Evaluations from 52 courses, 47 teachers, and 60 classes.

Research Rigour: Acceptable. Descriptive and inferential statistics.

Country of Origin: USA.

Abstract: This is a case study investigating the use of small group instructional diagnosis (SGID) as a technique to obtain feedback on teaching and course at Purdue University. It was a follow-up study of 147 SGIDs carried out in 1991. An analysis of 60 SGIDs from 6 schools across various disciplines was carried out. Data show SGIDs can be used successfully to help to improve teaching and learning.

De La Harpe, B., Radloff, A., & Wyber, J. (2000). Quality and generic (professional) skills. *Quality in Higher Education, 6*(3), 231-243.

Keywords: *In situ* training/quality/generic skills/discipline/professional development programme

Type of Study: Single institution case study; quantitative and qualitative.

Methodology: Descriptive case study, questionnaires and interviews.

Size: 7 schools in Business.

Research Rigour: Descriptive statistics, inferential statistics and reports.

Country of Origin: Australia.

Abstract: The paper describes how a business school has identified a set of generic skills to be taught to all undergraduate students and begun implementing a project to teach and assess

the skills in the context of each discipline. The measures of effectiveness that were developed are outlined and lessons learned to date in efforts to improve educational quality are discussed.

Drew, L., & Vaughan, S. (2002). The course team as the focus for contextualized professional learning. *Innovations in Education and Training International, 39*(3), 183–195.

Keywords: *In situ* training/ professional development/ course teams/ student learning

Type of Study: Single institution qualitative case study.

Methodology: Data gathered from the reflective journals of 5 teachers.

Size: 5 teachers (60% of the course team) over a period of 2 years.

Research Rigour: Acceptable. Data analysed using a constant comparative method of both content and text to make interpretations of the qualitative data.

Country of Origin: UK.

Abstract: The study reviews a course team involved in contextualised professional learning over a 2-year period. The study illustrates how the development focus shifts from the individual to a whole course team in an attempt to have more impact on the student learning experience and innovative models of course design. The findings are consistent with other studies that suggest focus should be on the individual staff level as well as at the course and department levels.

Gibbs, G., & Coffey, M. (2004). The impact of training of university teachers on their teaching skills, their approach to teaching and the approach to learning of their students. *Active Learning*, *5*(1),87-100.

Keywords: Intensive courses/conceptual model/SEEQ/MEQ/ATI/teacher outcomes/ student outcomes

Type of Study: Quantitative, multi-institutional, teaching outcomes, student outcomes.

Methodology: Impact of training assessed using standardised measures for student rating of teaching (SEEQ), approaches to teaching claimed by staff (ATI), approaches to study adopted by students (MEQ). Comparisons made with control group.

Size: 22 institutions; 104 students.

Research Rigour: Strong; one of the few studies incorporating a control group, using standardised instruments, and reporting effects sizes.

Country of Origin: UK.

Abstract: The paper reports a study of the effectiveness of training of university teachers involving 22 universities in eight countries. A Training Group of teachers and their students were studied at the start of their training and 1 year later. A Control Group of new teachers received no training, and they and their students were studied in the same way. Evidence is reported of changes over time relating to three standardised measures: student ratings of their teachers; the extent to which teachers described themselves as teacher-focused and student-focused in their approach to teaching; and the extent to which these teachers' students take a surface approach and a deep approach to learning. The paper reports evidence of a range of positive changes in teachers in the Training Group, and in their students, and a contrasting lack of change, or negative changes, in untrained teachers from the Control Group.

Halliday, J., & Soden, R. (1998). Facilitating changes in lecturers' understanding of learning. *Teaching in Higher Education, 3(1)*, 21–36.

Keywords: Intensive courses/conceptions of teaching

Type of Study: Longitudinal and qualitative assessment of training outcomes.

Methodology: Series of interviews plus direct observation of the teaching of trainees. Data coded to assess any shift in attitudes with training.

Size: 11 trainees.

Research Rigour: Well-designed pilot study employing outsider to code trainee responses. No indication of effects size.

Country of Origin: UK.

Abstract: The research reported in this paper addresses some general concerns about courses of professional development for lecturers in Higher Education through description and analysis of a particular course. Over a 9-month period a group of 11 lecturers were encouraged to develop an increasingly sophisticated and theoretically informed understanding of purpose and process in learning. They were also encouraged to construct ways of teaching consistent with their developing theoretical understanding and to justify those ways retrospectively. A fundamental assumption that underpins such encouragement is that practice is improved when practitioners engage seriously with the epistemological problem of theory-preference.

Haynes, D. (1999). What impacts do tertiary teacher education courses have upon practice? *HERDSA Annual International Conference*, Melbourne, Australia.

Keywords: Intensive courses/conceptions of teaching

Type of Study: Survey of the teachers' perceptions of the impact of academic development.

Methodology: Survey based on Kinder's typology of training outcomes, and trainees' rankings of their importance.

Size: Single cohort, 165 trainees.

Research Rigour: Only outcomes recorded were trainee's reports of change.

Country of Origin: New Zealand.

Abstract: Graduates of Auckland Institute of Technology's Certificate for Educational Research were surveyed as to how teacher education impacted upon them. Graduates were also asked to rank teacher education vis à vis other influences on their practice. The results affirm that participants see tertiary education programmes as making a significant impact upon their practice.

Ho, A., Watkins, D., & Kelly, M. (2001). The conceptual change approach to improving teaching and learning: an evaluation of a Hong Kong staff development programme. *Higher Education, 42,* 143–169.

Keywords: Intensive courses/conceptions of teaching/programme evaluation.

Type of Study: Quantitative study of both staff and student outcomes.

Methodology: 3 year longitudinal study measuring impact of training on teacher's conceptions of teaching (interviews), students' perceptions of teaching (CEQ), and students' approach to learning (ASI).

Size: Cohort of 12 trainees.

Research Rigour: Robust methodology incorporating control group, standardised instruments, and comprehensive record of multivariate analysis and effect size.

Country of Origin: Hong Kong.

Abstract: This paper reports a study of the effectiveness of an innovative approach to staff development, the conceptual change approach that attempts to change teachers' frameworks for conceptualising teaching and learning. The evaluation investigated the programme at three levels: the impact on the conceptions of teaching of the participants; the resultant impact on teaching practice; and the consequential effects on student learning. Encouraging results were obtained. The programme brought about detectable conceptual change in two-thirds of the sample group. Subsequently all the 'changed' teachers received better ratings on their teaching from their students in the following academic year, while none of those who did not change their conceptions showed similar gains in student rating scores. A resultant positive impact on their students' studying approaches was observed for half the teachers who changed their conceptions.

Johnston, D. J. (1999). Participants' perceptions of a teaching methods course for beginning lecturers at Temasek Polytechnic. *International Journal for Academic Development, 4(1)*, 52–58.

Keywords: Intensive courses/conceptions of teaching

Type of Study: Qualitative study of impact of training on attitudes of trainees.

Methodology: Focus groups used to establish categories of outcomes perceptions and then assess the effectiveness of the course against these categories.

Size: Sample of 13 trainees.

Research Rigour: Indicative results only: no control group, small sample, no prior assessment and no assessment of changes in teaching.

Country of Origin: Singapore.

Abstract: Singapore's Temasek Polytechnic recently recruited a large number of lecturers who are required to undertake an accredited part-time 1.5-year award course titled Teaching in Higher Education Certificate (THEC). The THEC programme is delivered in-house and assessed externally. Graduates acquire basic teaching skills and demonstrate reflective practice. As part of an ongoing study into the effectiveness of the course, a series of discussion groups was conducted with 13 randomly selected participants and graduates. Qualitative data were analysed and gave eight general perceptions participants have of the course. The perceptions indicate the course is well regarded because it is relevant as it enables theory to be put into practice and prompts participants to be reflective practitioners.

Johnstone, S. (1997). Educational development units: aiming for a balanced approach to supporting teaching. *Higher Education Research and Development, 16*(3), 331–342.

Keywords: Consulting/teaching improvement/professional development

Type of Study: Single institution qualitative study. Methodology: Action learning case study.

Size: Institutional approach.

Research Rigour: Acceptable. Reflective practice. Inferential evidence.

Country of Origin: Australia.

Abstract: The case of the University of Canberra is described in this paper. The academic development unit plays a key role in supporting teaching at an institutional level. There is tension between working with staff at an individual level and at an institutional level. On reflection and against findings in the literature the author concludes the two levels of operation need to be seen as complementary: both are needed to enhance the quality of teaching.

Kember, D. (1998). Action research as a paradigm for educational development. *Proceedings of the Annual HERDSA Conference*, Australia.

Keywords: *In situ* training/action research/action learning/collaboration/improving student learning

Type of Study: Multi-institutional quantitative and qualitative study.

Methodology: Action learning through action research projects. Survey questionnaires and interviews.

Size: Over 90 projects at 8 universities.

Research Rigour: Acceptable. Descriptive. Inferential statistics based on triangulation of the data obtained through various methods.

Country of Origin: Hong Kong.

Abstract: Action research is advocated as a paradigm for educational development. In educational action research projects, participants seek to examine and improve aspects of their own teaching with the aim of improving their students' learning. The study reports on the implementation of the paradigm through the Action Learning Project in Hong Kong: over 90 action research initiatives in 8 institutions. We learn how to conduct this type of educational development, and that such collaborative ventures benefit all institutions that participate.

Knight, P. T., & Trowler, P. R. (2000). Department-level cultures and the improvement of learning and teaching. *Studies in Higher Education, 25*(1), 69–83.

Keywords: *In situ* training/departmental leadership/professional development/ teaching and learning improvement

Type of Study: Literature review; syntheses from studies and comparative study based on prior study of researcher, quantitative and qualitative.

Methodology: Syntheses of literature; interviews and comparison with data from previous study.

Size: 26 staff at 2 Canadian and 8 English universities.

Research Rigour: descriptive statistics, inferential statistics.

Country of Origin: UK and Canada.

Abstract: The study is evidence that good practice in teaching and learning is affected by leadership practices and working cultures at the departmental level. At the departmental level there are changes in approaches to and recurrent practices in teaching and learning. Desirable change is most likely to be achieved in collective and collaborative ways. Data come from in-depth interviews with academics in England and Canada; from one author's previous studies; and from literature on faculty work environments in English-speaking countries.

Macalpine, M. (2001). An attempt to evaluate teaching quality: One department's story. *Assessment and Evaluation in Higher Education, 26*(6), 563–578.

Keywords: Consulting/teaching improvement/student feedback/peer evaluation/ teaching portfolio

Type of Study: Single institution quantitative and qualitative study.

Methodology: Case study of good practice.

Size: Teaching index was used institutionally by 2 out of 3 staff in the pilot year.

Research Rigour: Acceptable. Inferential statistics.

Country of Origin: Hong Kong.

Abstract: The paper describes the case of Hong Kong Polytechnic University where the Teaching and Learning Committee tried out a Teaching Evaluation Index comprised of a weighted sum of 3 indicators: Student feedback questionnaires, in-class peer evaluations and teaching portfolio quality. All 3 of these elements have their limitations but when used in combination, the bias in one may to a large extent balance out the biases in the others and give a reasonably reliable indicator of teaching ability.

Macdonald, I. (2001). The teaching community: recreating university teaching. *Teaching in Higher Education, 6*(2), 154–167.

Keywords: *In situ* training/teaching community/improving teaching/educational development/ change

Type of Study: Multi-institutional quantitative and qualitative case study.

Methodology: Action learning; reflective practice; surveys, focus groups.

Size: 2 universities; 3–5 year collaboration and development; first year Engineering programme.

Research Rigour: Acceptable; inferential lessons from reflective practice.

Country of Origin: Australia.

Abstract: The Teaching Community approach has been developed over a 5-year period at 2 Australian universities. It has resulted in changing teachers' understanding of their role, teaching skill, enthusiasm and motivation for teaching. The model has proved effective for educational development and in coping with change. The paper describes the development, success, areas that resist change, and makes suggestions for how this approach can be used to improve tertiary teaching.

MacKinnon, M. M. (2001). Using observational feedback to promote academic development. *The International Journal for Academic Development, 6*(1), 21–28.Keywords: Consulting/teaching improvement/professional development/reflective practice

Type of Study: Single institution descriptive case study.

Methodology: Qualitative self-critique.

Size: Not applicable: descriptive case study of practice.

Research Rigour: Acceptable as a case study reflecting on practice.

Country of Origin: Australia.

Abstract: The paper illustrates how professional consultants can use observational feedback to improve instructional effectiveness and strengthen the academic identity of university teachers. A 3-step approach is presented with guidelines for giving feedback. The reflections indicate there will only be long-term improvement of teaching if the feedback is supportive, educational and developmental.

Martin, E., & Ramsden, P. (1994). ***Effectiveness and Efficiency of Courses in Teaching Methods for Recently Appointed Academic Staff*****. Canberra: Australian Government Publishing Service**.

Keywords: effectiveness/efficiency, staff training/staff development

Type of Study: Multi-institutional, comparative survey of trainees' perceptions.

Methodology: Trainees surveyed using ATI, an evaluation questionnaire, and telephone interviews.

Size: 10 institutions participated but low and patchy response to various phases of data gathering.

Research Rigour: Reasonable survey of range of training provision; diversity of programmes makes it difficult to compare them for effectiveness.

Country of Origin: Australia.

Abstract: This project was an investigation of courses in teaching methods for recently appointed staff in ten institutions in the Australian university system. Information about the ten courses was collected by a questionnaire sent to course convenors, and was supplemented by course materials and interviews. A modified Approaches to Teaching Inventory (ATI) plus phone interviews were used to assess development in teaching competence and satisfaction with the courses. The report concluded: there is no uniform definition of a course in teaching methods for newly appointed staff; the results support recent moves towards longer programmes incorporating ideas about reflective practice; institutional commitment was an essential requirement for positive outcomes; and training provision was generally inadequate.

Martin, G. A. &. Double, J. M. (1998). Developing higher education teaching skills through peer observation and collaborative reflection. ***Innovation in Education and Training International, 35*****(2), 161–170**.

Keywords: Consulting/professional development/teaching improvement/action learning

Type of Study: Single institution qualitative case study.

Methodology: Action learning and reflective practice on pilot scheme.

Size: Not applicable. Description and reflection on practice.

Research Rigour: Acceptable. Inferential evidence based on reflections of participants.
Country of Origin: United Kingdom.

Abstract: The paper provides a description of an action-based approach to the development of teaching skills in higher education through peer observation and collaborative reflection. A 3-phase model is described and the results of a pilot scheme are reported. From this study it would appear models of development firmly based in existing practice can directly benefit the individual teacher, can enhance collegiality and can have a significant effect on changing departmental cultures.

McAlpine, L., & Harris, R. (2002). Evaluating teaching effectiveness and teaching improvement: A language for institutional policies and academic development practices. *The International Journal for Academic Development, 7*(1), 8–17.

Keywords: Consulting/teaching evaluation/teaching standards/teaching criteria/ teaching improvement/professional development

Type of Study: Single institutional qualitative study.

Methodology: Action learning case study.

Size: Not applicable. Framework developed and applied institutionally.

Research Rigour: Acceptable. Framework developed in consultation with staff and managers.

Country of Origin: Canada.

Abstract: The paper describes the work done at McGill University in Canada to develop a framework for evaluating the practice of teaching. The framework provides the language to differentiate aspects of teaching. It provides a basis for differentiating and linking criteria to standards, i.e. the level of achievement desired or expected. The framework is useful for academic managers, teachers and academic developers. Examples of all 3 uses are described in the paper.

McKenzie, J. (1998). Enhancing university teaching with teaching enhancement teams. *Innovations in Education and Training International, 35*(1), 140–149.

Keywords: *In situ* training/teaching improvement/flexible learning/teaching enhancement teams/ professional development programme

Type of Study: Single institution quantitative and qualitative case study.

Methodology: Survey by questionnaire; interviews.

Size: 2 years; 3 initiatives.

Research Rigour: Acceptable. Inferential/descriptive statistics; reflections on programmes.

Country of Origin: Australia.

Abstract: The study reports on 3 initiatives at the University of Sydney. These include the development of Teaching Enhancement Teams, i.e., groups of teachers working together and individually to improve teaching within their own and across disciplines. The initiatives focusing on enhancing teaching quality, on part-time teaching and on flexible learning all contributed to improvements in teaching.

McKenzie, J. (1999). Changing teachers' ways of experiencing teaching and ways of experiencing teaching change: How do they relate and what are the implications? *HERDSA Annual Conference,* Melbourne, Australia.

Keywords: Intensive courses/conceptions of teaching

Type of Study: Longitudinal, qualitative, single institution.

Methodology: Phenomenographic analysis of series of interviews with the trainees over the course of their training.

Size: 22 trainees in a single cohort.

Research Rigour: Appropriate to the methodology.

Country of Origin: Australia.

Abstract: This paper explores the relations between the researcher's analysis of changes in university teachers' described experiences of teaching over three interviews, and the teachers' descriptions of their own experience of change in teaching. Differences in what teachers focus on when they experience change in teaching suggests reasons why some teachers change their experiences of teaching and others do not, and has implications for teaching improvement programmes.

McLean, M., & Blackwell, R. (1997). Opportunity knocks? Professionalism and excellence in university teaching. *Teachers and Teaching: Theory and Practice, 3*(1), 85–99.

Keywords: In situ training/reflective practice/teaching portfolios/teaching improvement

Type of Study: Single institution qualitative case study.

Methodology: Self-reflection informed by theory: action learning case study.

Size: 60 teachers' portfolios over 2 years programmes.

Research Rigour: "Rigour is provided by the closely interrelated principles of reflective practice and professional dialogue and by being informed by pedagogic theory and its associated research" (p. 85).

Country of Origin: UK.

Abstract: The paper proposes that excellence in teaching resides in a reflective, self-critical, theoretically informed approach. A training programme for new teachers is used as an example of how the approach advocated can be put into practice. Evidence is presented that indicates academics pursuing such an approach develop conceptions of teaching that can contribute to improved practice; and may also contribute to changing thinking about teaching and learning in departments.

Morss, K., & Donaghy, M. E. (1998). Discipline-based academic development through a tripartite partnership. *International Journal for Academic Development, 3*(2), 136–145.

Keywords: *In situ* training/discipline-based professional development/reflective practice/professional development/academic development

Type of Study: Single institution case study.

Methodology: Action research project.

Size: Partnership between 1 academic department with 11 staff and clinicians, and the academic development unit.

Research Rigour: Action research project; data through reflection, developing new framework.

Country of Origin: Scotland.

Abstract: The paper describes a discipline-based academic development project based on a tripartite relationship between departmental staff, work-based practitioners and the academic development unit, which took place over 1 year. The purpose of the project was to discuss and debate the concept of the 'reflective practitioner', to develop strategies for enabling undergraduate students to be reflective, and to devise a framework for assessment of reflective practice in clinical-based learning. Positive learning outcomes for students indicate academic development can be valuable and productive when undertaken as a partnership and placed in a disciplinary context.

Piccinin, S. (1999). How individual consultation affects teaching. *New Directions for Teaching and Learning, Fall*(79), 71–83.

Keywords: Consulting/academic development/teaching improvement/student ratings/ student feedback/teacher observation

Type of Study: Single institution quantitative and qualitative study.

Methodology: Survey of all staff consulting the academic development unit over a 7year period. Sample included staff from all academic areas and levels of experience.

Size: 165 teachers over a 7-year period.

Research Rigour: Acceptable. Pre- and post-data were available for all 91 staff who sought consultation to improve teaching. Consultations ranged from feedback-consultation, feedback-consultation-class-observation through to feedback-consultation-class-observation-student feedback. The measure of teaching effectiveness used was a standardised student rating form used 1 to 3 years before consultation and 1 to 3 years after the consultation.

Country of Origin: Canada.

Abstract: The study provides empirical evidence that consultation from an academic developer has long-term effects on the improvement of teaching. The study was conducted at the University of Ottawa over a 7-year period with all staff that contacted the unit for academic development. 91 staff sought consultation to improve their teaching. The results show that consultation was effective in improving the quality of teaching as measured by increased mean student ratings of instruction.

Sheard, J., & Hagan, D. (1999). Developing a teaching community of introductory programming tutors. *Proceeding of the HERDSA Annual International Conference*, Melbourne, Australia.

Keywords: In situ training/community approach/professional development/tutor training

Type of Study: Single institution qualitative and quantitative study.

Methodology: Survey of tutors; pre- in- and post-training. Use of teaching community model.

Size: 3 cohorts in 1996-1998.

Research Rigour: Acceptable. Inferential statistics.

Country of Origin: Australia.

Abstract: A teaching community approach was introduced into the tutorials programme for first year programming subjects. Tutors were given a 3-day intensive training course that introduced them to educational theory, a model of good tutoring, and opportunities to practise techniques and discuss issues. This was followed up and supported by weekly meetings to reinforce the training programme. The study explores tutors' responses to this community approach.

Stanley, C. A., Porter, M. E., & Szabo, B. L. (1997). An exploratory study of the faculty developer-client relationship. *Journal of Staff, Program and Organizational Development, 14*, 115–126.

Keywords: Consulting/academic development/teaching feedback/consultation relationship

Type of Study: Multi-institutional quantitative and qualitative study.

Methodology: Informal survey by telephone followed by the development of a written survey

instrument.

Size: 227 staff at 2 universities. Research Rigour: Acceptable: Descriptive and analytical procedures that included variability and frequency distributions.

Country of Origin: USA.

Abstract: This study explored some elements of the faculty developer-client relationship during the consultation process. Of the 227 staff surveyed at 2 universities there were 83 useable responses. Staff assessed the outcomes of the faculty-developer-client consultation process, priority skills for academic developers, and characteristics of an effective consultation process. This study is an exploratory study of what staff expect from the faculty developer-client relationship.

Sheard, J., & Hagan, D. (1999). Developing a teaching community of introductory programming tutors. *HERDSA Annual International Conference*, Melbourne, Australia.

Keywords: *In situ* training/community approach/professional development programme/tutor training

Type of Study: Single institution quantitative and qualitative study.

Methodology: Survey of tutors; pre- in- and post-training. Use of teaching community model.

Size: 3 cohorts in 1996-1998.

Research Rigour: Acceptable. Inferential statistics.

Country of Origin: Australia.

Abstract: A teaching community approach was introduced into the tutorials programme for first year programming subjects. Tutors are given a 3-day intensive training course that introduces them to educational theory, a model of a good tutorial class, and opportunities to practise techniques and discuss issues. This is followed up and supported by weekly meetings to reinforce the training programme, share ownership of the subjects, contribute suggestions for ways of teaching particular concepts, and reflect on and discuss their teaching experiences. The study explores tutors' responses to this community approach.

Wilson, R. C. (1986). Improving faculty teaching. *Journal of Higher Education, 57*(2), 196–211.

Keywords: Consulting/academic development/teaching improvement/good teaching

Type of Study: Single Institution quantitative and qualitative study.

Methodology: Survey of teachers; student feedback questionnaires.

Size: 96 teachers participated over a 3-year period.

Research Rigour: Acceptable. Descriptive and inferential statistics.

Country of Origin: USA.

Abstract: The study conducted at the University of California, Berkeley, describes the procedures of good teaching practices from excellent teachers. It also reports on the results of a 3-year study designed to determine whether telling staff about good teaching ideas would lead to improved teaching. The study included pre- and post-data of 45 teachers teaching 46 subjects. The results indicate there is an overall improvement of teaching as a result of consulting.

Rust, C. (1998). The impact of educational development workshops on teachers' practice. *International Journal of Academic Development, 3*(1), 72–80.

Keywords: Synthesis/short courses

Type of Study: Synthesis/Quantitative and qualitative study of impact on teaching.

Methodology: Questionnaire survey of trainees with follow-up telephone interviews.

Size: 146 respondents from 29 workshops.

Research Rigour: Moderate: respondents who claimed to have changed their teaching practice were questioned about these changes.

Country of Origin: UK.

Abstract: This paper reviewed the available literature on the effectiveness of workshops and reported the findings of a study in to the effectiveness of 33 workshops delivered by the Oxford Centre for Staff and Learning Development over a 4-month period. The study used questionnaires at the end of the workshops and 4 months later, and these were followed up by telephone interviews with a sample of participants. The study demonstrated that workshops can lead to changes in practice, and that these changes are themselves deemed to be successful by those involved. In addition, where at the end of a workshop participants report that they are likely to make changes, this can be used as a reasonably accurate predictor of subsequent change. The features of workshops identified in end-of-workshop questionnaires that are linked with likelihood of subsequent change were also reported.

Rust, C. (2000). Do initial training courses have an impact on university teaching? The evidence from two evaluative studies of one course. *Innovations in Education and Training International, 37(3)*, 254–262.

Keywords: Intensive courses/course evaluation/conceptions of teaching

Type of Study: Longitudinal evaluation of a single course.

Methodology: Assessed changes of trainee skills and attitudes using questionnaires, focus groups and guided conversations.

Size: 34 respondents in group 1; 12 in group 2.

Research Rigour: Well-conducted qualitative study benefiting from an outside researcher.

Country of Origin: UK.

Abstract: Initial training courses for teachers in higher education are now widespread in many countries and about to be given increased importance in the UK by the new Institute for Teaching and Learning, but there appears to have been virtually no research into their effectiveness. This paper summarises evidence from two evaluative studies of the initial training course at Oxford Brookes University, UK, and concludes some claims can be made for the course's effectiveness.

5.2 Student Support

Astin, A. W. (1993). *What matters in college? Four critical years revisited*. San Francisco: Jossey Bass Publishers.

Keywords: Integration/institutional culture

Type of Study: Synthesis of empirical studies to support an argument.

Methodology: Synthesis, but not a best evidence synthesis.

Size: Synthesises 20 studies, 7 authored by himself.

Research Rigour: Acceptable although synthesis not best evidence. Uses quantitative empirical studies, including his own, to put an argument.

Country of Origin: USA.

Abstract: A key book to the student outcomes project, this provides significant data from USA studies. It canvases a wide range of environmental factors that affect the student experience and student outcomes.

Astin, A. W. (1996). Involvement in learning revisited: Lessons we have learned. *Journal of College Student Development*, 37(2), 123–134.

Keywords: Academic advice/counselling/institutional culture/diversity/involvement/social integration/academic integration

Type of Study: Synthesis of empirical studies to support an argument.

Methodology: Synthesis, but not a best evidence synthesis.

Size: Synthesises 20 studies, 7 authored by himself.

Research Rigour: Acceptable although synthesis not best evidence. Uses quantitative empirical studies, including his own, to put an argument.

Country of Origin: USA.

Abstract: The article reviews some of the research on student involvement in learning since 1984 and its particular relevance to people working in student affairs. Its recommendations include 'front-loading' resources in the first year, using active teaching, learning communities, academic advice and counselling, enhancing student involvement, using technologies to increase student-faculty contact. The three most potent forms of involvement include: academic involvement; involvement with faculty; and involvement with student peer groups. The strongest single source of influence on cognitive and affective development is the peer group. The student orientation of faculty (as distinct from a research orientation) is a key positive factor in an institutional climate.

Bailey, B. L., Bauman, C., & Lata, K. (1998). *Student retention and satisfaction: The evolution of a predictive model.* ERIC ED 424 797. Minneapolis MN: Association for Institutional Research.

Keywords: Retention/relationships/learning support/institutional culture

Type of Study: Multi-institutional quantitative study.

Methodology: A Student satisfaction phone survey.

Size: 5558 students in 14 universities.

Research Rigour: Rigorous . Factor analysis using a varimax rotation to discover significant relationships between variables including relationships between early leavers and stayers.
Country of Origin: USA.

Abstract: System-wide student satisfaction data from 14 universities are used to factorize a predictive retention model containing four variables: overall campus experience; a cohesive campus community; fair and helpful staff attitudes; and committed advisory support.

Bailey, B. L., Bauman, C., & Lata, K. (1998). ***Student retention and satisfaction: The evolution of a predictive model*****. Paper presented at the Annual Forum of the Association for Institutional Research, Minneapolis.**

Keywords: Retention/relationships/learning support/institutional culture

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Abstract: System-wide student satisfaction data from 14 universities are used to factorize a predictive retention model containing four variables: overall campus experience; a cohesive campus community, fair and helpful staff attitudes and committed advisory support.

Baker, S., & Pomerantz, N. (2000–2001). Impact of learning communities on retention at a metropolitan university. ***Journal of College Student Retention*****, 2(2), 115–126.**

Keywords: Retention/learning communities/academic integration

Type of Study: Single-institution quantitative and qualitative study.

Methodology: Surveys, focus groups, statistical comparisons with control group.

Size: 608 students – 328 in research sample; 280 in control group.

Research Rigour: Acceptable. Use of inferential statistics achieved significant results.

Country of Origin: USA.

Abstract: This study investigates the effects of participation in learning communities (LC) on, among other things, retention between fall and spring semesters. The LC model used clustered three courses together without thematic linkage or integration. A variety of methodologies were used to assess program impact. The research demonstrates LC programs that simply cluster courses can make a significant difference in the lives of students who attend commuter campuses.

Beasley, C. J. (1997). Students as teachers: The benefits of peer tutoring. In R. Pospisil, & L. Wilcoxson (Eds.), ***Learning Through Teaching. Proceedings of the 6th Annual Teaching/Learning Forum***. Perth, Murdoch University.

Keywords: Peer tutoring/evaluation/mentoring

Type of Study: Quantitative and qualitative, single institution/university.

Methodology: Evaluation questionnaire.

Size: 33 tutors and 27 tutees.

Research Rigour: Acceptable – descriptive statistics with analysis of comments. Strong and positive effects.

Abstract: This paper examines the development and evaluation of a pilot peer-tutoring programme conducted over two semesters in 1995 with undergraduate commerce students, many of whom were international students. Although the programme was not without its problems (administrative as well as attitudinal on the part of some staff and students), it could only be seen as highly successful in terms of the outcomes for all concerned the course grades of tutees and the very positive evaluations of both tutors and tutees.

Bennett, S. (2001). ***Cultural identity and academic achievement of Maori undergraduate university students*****. Unpublished MSc (Psychology) thesis, Massey University, Palmerston North.**

Keywords: Maori/GPA/achievement/identity

Type of Study: Single-institutional, quantitative and qualitative study.

Methodology: Survey research.

Size: 72 students.

Research Rigour: Acceptable. Uses descriptive statistics and regression analysis.

Country of Origin: New Zealand.

Abstract: This research project investigated the relationship of cultural identity, academic outcome and psychological well-being among 72 undergraduate Maori university students. Major findings include: there are consistent negative relationships between student problems and grade point average; cultural identity is associated with a number of positive psychological and educational outcomes; cultural identity moderates the effect of student problems on grade point average in that a high degree of problems were associated with decreases in GPA among respondents with low cultural identity, while among respondents with high cultural identity student problems had little negative effect on GPA; cultural identity moderates the effect of student problems on perceived stress in that under conditions of low problems students low in cultural identity have significantly higher levels of perceived stress in comparison with students high in cultural identity.

Berger, J. B. (2001–2002). Understanding the organisational nature of student persistence: Empirically-based recommendations for practice. ***Journal of College Student Retention, 3*****(1), 3–21.**

Keywords: Institutional culture/retention/satisfaction

Type of Study: Synthesises major quantitative studies of how organisations contribute to retention.

Methodology: Synthesis of literature.

Size: Synthesises 44 studies, including 5 of the author's own.

Research Rigour: Not a best evidence synthesis. But a majority of studies used appear to have an inferential statistical foundation.

Country of Origin: USA.

Abstract: This article builds on the assumption colleges and universities are organisations and subsequently the organisational perspective provides important insights for improving retention on college and university campuses. A review of existing organisational studies of

undergraduate persistence serves as the basis for ten empirically based recommendations for practice designed to help campus leaders improve the effectiveness of retention efforts on campus.

Bers, T., & Nyden, G. (2000–2001). The disappearing student: Students who leave before the census date. *Journal of College Student Retention, 2*(3), 205–217.

Keywords: Disappearing students/withdrawal

Type of Study: Single-institution quantitative study.

Methodology: autopsies on student records and telephone survey.

Size: 1070 students.

Research Rigour: Acceptable. Design and Results based on use of descriptive and inferential statistics.

Country of Origin: USA.

Abstract: This article reports on research into the characteristics of disappearing students and the reasons they have for leaving courses so early in the year. Findings show a complex array of reasons, many of which the institution cannot affect. As they leave so early it is external factors (e.g. time and money) more than classroom experiences and interactions with teachers that influence their decisions.

Bloomer, M., & Hodkinson, P. (1999). *College life: The voice of the learner*. (FEDA Report 2(10)). London, Further Education Development Agency (FEDA) Publications.

Keywords: Integration/learning careers/transition/retention

Type of Study: Qualitative, multi-institution colleges of education and university.

Methodology: In-depth interviews and case studies.

Size: 49 students.

Research Rigour. Acceptable – produces rich qualitative data leading to valuable insights. strong effect.

Country of Origin: UK.

Abstract: Follows 49 students as they move from school into, and beyond, college to university and employment, juxtaposing student comment and in depth case studies with policy issues. Looks at how learning is interwoven with young people's lives and their search for identity and self-fulfilment. Highlights the complexity, variety and often the unpredictability of learning careers.

Brackely, T. (1999). *Improving student writing: Does catering for NESB students mean having separate groups split by language background?* Paper presented at the Higher Education Research and Development Society of Australasia Conference, Melbourne.

Keywords: Learning support/essay writing

Type of Study: Quantitative and qualitative, single institution (university).

Methodology: Student record autopsy study and interview records.

Size: 36 undergraduate students.

Research Rigour: Acceptable – descriptive outcome statistics and detailed interview analysis. Effects major and positive.

Country of Origin: New Zealand.

Abstract: Explores a pilot project to increase the quality and quantity of students' writing for exam essays in a stage-one business course. Of those who attended more than three of five sessions, 100% passed the essay writing part of the exam. 70% of those who attended one or two sessions failed. The project found that separating NESB and ESB students might not be necessary as both groups have problems dealing with exam essays, and similar learning and writing strategies benefit both.

Braxton, J. M., Vesper, N., &, Hossler, D. (1995). Expectations for college and student persistence. *Research in Higher Education*, *36*(5), 595–612.

Keywords: Student expectations/retention/persistence/integration/academic integration/ social integration

Type of Study: Multi-institutional quantitative study.

Methodology: survey by questionnaire of a sample of students. Results used to develop a retention model.

Size: This study reports on 263 students within a larger sample of 4923 students.

Research Rigour: Acceptable: Inferential statistics using structural equation modelling yielded significant findings.

Country of Origin: USA.

Abstract: This article describes a study of the relationships between students' expectations and commitment on entering college/University, their perceptions of their initial experiences and their intention to return the following year (persistence). The findings indicate that both academic and social integration are positively influenced by the meeting of expectations for academic and career development. It is suggested that colleges and universities need to portray their characteristics accurately to prospective students.

Bruning, S. (2002). Relationship building as a retention strategy: Linking relationship attitudes and satisfaction evaluations to behavioral outcomes. *Public Relations Review, 28*(1), 39–48.

Keywords: Retention/relationships/institutional culture/administration

Type of Study: Single-institution quantitative and qualitative study.

Methodology: Survey by questionnaire.

Size: 122 students.

Research Rigour. Acceptable. Applied inferential statistics to investigate relationships. Significant results

Country of Origin: USA.

Abstract: Recent research has shown that effectively managed organisation-public relationships affect key public member attitudes, evaluations and behaviour. Here 122 participants were surveyed to determine whether student-university relationship attitudes and satisfaction evaluations distinguished those who returned to a university from those who did not. Results show respondent relationship attitudes differentiate those who returned to the university from those who did not. Results provide a quantitative illustration of the benefits of incorporating a relationally based grounding for the practice of public relations.

Brunsden, V., Davies, M., Shevlin, M., & Bracken, M. (2000). Why do HE students drop out? A test of Tinto's model. *Journal of Further and Higher Education, 24*(3), 301–310.

Keywords: Withdrawal/retention

Type of Study: Quantitative single institution.

Methodology: Questionnaire.

Size: 264 undergraduate students.

Research Rigour: Acceptable. Path analysis using LISREL8 to test Tinto's model.

Country of Origin: UK.

Abstract: This study examined Tinto;s (1875) model of student attrition, which suggests that students' dropout decisions are social and academic worlds. The model was tested with path analysis using LISREL8 software (Joreskog & Sorbom, 1993a) using maximum likelihood estimation. Findings, based on a global test of the model as a whole, as well as tests of individual paths within the mode, were that the model does not provide an acceptable description of the data. Prior investigations into the model have been largely supportive, and reasons are considered for the disparity between previous and current findings. It is suggested that Tinto's perspective may not be the most appropriate for attrition research. Instead it is contended that interactionist and ethnographic approaches may result in a more appropriate theoretical framework.

Cabrera, A., Nora, A., Terenzini, P., Pascarella, E., & Hagedorn L. (1999). Campus racial climate and the adjustment of students to college: A comparison between white students and African-American students. *Journal of Higher Education, 70*(2), 134–160.

Keywords: discrimination/diversity/institutional culture

Type of Study: Quantitative, multiple institution.

Methodology: Survey.

Size: 1454 students; 18 colleges.

Research Rigour: Acceptable. Inferential statistics.

Country of Origin: USA.

Abstract: This study examined the impact of prejudice and discrimination at 18 institutions on the adjustment of 1454 students to college. Results indicate perceived discriminatory behaviour negatively affected minority-student academic/intellectual development, social experiences and institutional commitment. Although differential effects were noted for minorities and non-minorities, exposure to discriminatory behaviour impinged on the cognitive/affective development of all students.

Couchman, J. (1997). *Supplemental Instruction: Peer mentoring and student productivity.* Paper presented at the Annual Conference of the Australian Association for Research in Education, Brisbane.

Keywords: Supplemental instruction/peer mentoring/institutional services

Type of Study: Qualitative and quantitative, single institution/university.

Methodology: Action research and questionnaire survey with control group.

Size: 289 undergraduate students.

Research Rigour: Acceptable – use of descriptive statistics resulted in strong positive effects in favour of Supplemental Instruction.

Country of Origin: Australia.

Abstract: This study investigates the effects of a pilot Supplemental Instruction in the Faculty of Commerce at the University of Southern Queensland. The results, in both quantitative and qualitative terms endorsed early Supplemental Intervention success. This paper reviews the methods and outcomes of the process and will consider pertinent educational, financial and other benefits.

Dewart, B. (2003). ***Student retention project report: Towards a model for student retention*****. Unpublished paper, Universal College of Learning**.

Keywords: Retention/social integration/academic integration/advice

Type of Study: Single Institutional quantitative and qualitative study.

Methodology: Evaluation and record analysis.

Size: 212 undergraduate students.

Research Rigour: Simple design. Uses descriptive statistics and qualitative data. Importance lies in its New Zealand origin.

Country of Origin: New Zealand.

Abstract: This study reports an institutional intervention project in which student advisors were appointed to facilitate student integration into the institution. An evaluative questionnaire investigated the reasons for attrition, and a retention model was developed.

Dixon, S., & Gudan S. (2000). The impact of peer assisted learning on student performance and retention. ***Michigan Community College Journal: Research and Practice*****, *6*(2), 95–99. 2000.**

Keywords: Peer assisted learning/retention/completion.

Type of Study: Quantitative and qualitative, single institution/Community College.

Methodology: Questionnaire and student records.

Size: Unknown

Research Rigour: Acceptable – significant positive effects.

Country of Origin: United States.

Abstract: Studies the impact of peer-assisted learning on student academic performance and evaluated student and faculty feedback on their experiences. PAL participants had significantly higher course success rates and lower withdrawal rates than non-participants.

Elliott, J. (1997). Early student withdrawal: The reasons students give for leaving the university. In R. Pospisil, & L. Wilcoxson (Eds.), ***Learning Through Teaching. Proceedings of the 6th Annual Teaching/Learning Forum*** **(pp. 78–99)**.

Keywords: Retention/withdrawal/age/adult/counselling/student support/ gender/ academic advice

Type of Study: Quantitative, single institution/university.

Methodology: Survey questionnaire.

Size: 139 students.

Research Rigour: Acceptable: Descriptive statistics; moderate positive effects.

Country of Origin: Australia.

Abstract: This paper reports on a survey conducted with 139 students who withdrew from their courses before 30 April. It explores reasons for their withdrawal and whether they regard it as permanent or temporary, or whether they are seeking entry to another course. Also considered is whether students discussed their decision to withdraw with anyone. Differences between older and younger students are discussed.

Etter, E., Burmeister, S., & Elder, R. (2001). Improving student performance and retention via supplemental instruction. *Journal of Accounting Education, 18*(4), 355–368.

Keywords: Retention/learning support/supplemental instruction

Type of Study: Quantitative, multi-institution (university).

Methodology: Data analysis for the years 1986-1995. A data sheet was utilized containing information about total enrolments, participants in Supplemental Instruction, course grades for each student and withdrawal totals for both groups of students.

Size: 2425 students in 21 institutions.

Research Rigour: Acceptable even though only descriptive statistics were used. Strong, the effects seem to be major.

Country of Origin: USA.

Abstract: Supplemental Instruction (SI) is a cooperative learning model designed to improve student performance and retention in courses with a history of high failure and withdrawal rates. The paper describes the SI model and provides descriptive data on student performance, failure, and withdrawal rates for 132 introductory accounting classes from 21 4-year colleges and universities. Participants in SI programmes were observed to have higher average course grades, and lower failure and withdrawal rates.

Forgasz, H. (1997). *Students' perceptions of tertiary mathematics learning environments*. Paper presented at the British Educational Research Association Annual Conference, September.

Keywords: Retention /persistence /quality teaching /workload /assessment /support /gender /support/discrimination

Type of Study: Qualitative and quantitative multi-institution (university).

Methodology: Interview pilot study to identify survey items followed up by survey questionnaire.

Size: 23 interviews; 1072 sample for survey.

Research Rigour: Acceptable: Qualitative data based on semi-structured interviews; two-way analysis of variance (ANOVAs) found significant ($p<.01$) gender differences on a number of items.

Country of Origin: Australia.

Abstract: Students' perceptions of the learning environment influence their decisions to persist with mathematics. Data were gathered from interviews (23) and survey questionnaires (1072) at three universities. Facets of the learning context include quality of teaching, difficulty of courses, workload, assessment, assistance, discrimination. Gender differences were evident.

Garton, B., Dyer, J., & King, B. (2000). The use of learning styles and admission criteria in predicting academic performance and retention of college freshmen. *Journal of Agricultural Education, 41*(2), 46–53.

Keywords: Retention/Grade Point Average/learning support/learning approaches

Type of Study: Quantitative, single institution (university).

Methodology: Autopsy of student records and standardized questionnaire.

Size: 326 students.

Research Rigour: Acceptable but effect weak.

Country of Origin: USA.

Abstract: Research was conducted with first-year college students to assess the effectiveness of university admission variables and student learning style in predicting students' academic performance and retention. An intact group of first years enrolled in a college learning and development course was studied. Learners preferring a field-independent and field-neutral style exhibited greater academic performance than their field dependent peers during the first year of college as evidenced by GPA. Learning style and ACT score appeared to be the most accurate predictors of student retention.

Gerdes, H., & Mallinckrodt, B. (1994). Emotional, social and academic adjustment of college students: A longitudinal study of retention. *Journal of Counselling and Development*, *72*(3), 281–289.

Keywords: Retention/achievement/social integration/emotional integration/counselling.

Type of Study: Longitudinal quantitative study, single institution/university.

Methodology: Autopsy study of student records six years after completing a questionnaire survey.

Size: 209 students.

Research Rigour: Acceptable: Inferential statistics using stepwise discriminant function analysis identified 25 functions as significant predictors.

Country of Origin: USA.

Abstract: A study of undergraduate students expectations of college adjustment and actual college adjustment. Six years later academic transcripts revealed which students had dropped out and whether they had been in good or poor academic standing. Results indicated two different sets of items best discriminated among good-standing students (the persisters and the leavers) and among poor-standing students (also persisters and leavers). In general emotional and social adjustment items predicted attrition as well or better than academic adjustment items. A role for student counselling is identified.

Hammer, L., Grigsby, T., & Woods, S. (1998). The conflicting demands of work, family, and school among students at an urban university. *The Journal of Psychology, 132*(2), 220–227.

Keywords: Satisfaction/support services/culture/workload

Type of Study: Quantitative, single institution (university).

Methodology: Questionnaire.

Size: 375 undergraduate and graduate students.

Research Rigour: Acceptable. Results significant at p less than .01.

Country of Origin: USA.

Abstract: The effects of perceived effectiveness of university support services and general satisfaction with the educational satisfaction with the educational experience on conflicting demands of work, family and school were investigated in a study of 375 undergraduate and graduate students at an urban university. Results demonstrated a negative relationship between perceived effectiveness of support services and the degree of work-school role conflict experienced by participants. Furthermore, satisfaction with educational experience was negatively related to work-school conflict.

Heverly, M. A. (1999). Predicting Retention from Students' Experiences with College Processes. *Journal of College Student Retention*, *1*(1), 3–12.

Keywords: Retention/institutional climate/institutional culture

Type of Study: Quantitative and qualitative, single institution/community college.

Methodology: Two-phase telephone survey: first phase sample was randomly drawn from 2117 new students; second phase sample was self-selected from the original one.

Size: 250 students.

Research Rigour: Acceptable. Significant findings at .05 alpha level.

Country of Origin: USA.

Abstract: This study focused on college processes that have impact on retention patterns. Data were gathered shortly after students' encounters with key college processes in order to determine which components of those processes predict student retention. The results identified a small set of process characteristics that differentiated between returning and non-returning students.

Hinton, L., & Tickner, R. (2000). *Causes of attrition in first year students in Arts, Health and Science and recommendations for intervention.* Paper delivered at the First Year Experience Conference, 2000.

Keywords: Retention/ teaching approaches/ assessment/ workload/ institutional support/ academic integration

Type of Study: Quantitative and qualitative, Single institution/university.

Methodology: Action Research, case study and descriptive data analysis.

Size: 3 cohort groups but numbers not given.

Research Rigour: Descriptive data analysis basic but otherwise acceptable.

Country of Origin: Australia.

Abstract: This paper discusses a project that examined the retention of students in three first-year science courses at an Australian university. Class lists for compulsory laboratories were used to track student attendance. The timing and amount of assessment plus the HECS deadline were two features that emerged. Personal (social and financial) factors as well as academic (workload, prior knowledge, academic advice, independent learning, timetable confusion, isolation) were reasons for non-attendance. Problem areas identified included assessment, time-tabling and teaching methods.

House, J. D., & Kuchynka, S. J. (1997). The effects of a freshman orientation course on the achievement of health science students. *Journal of College Student Development*, 38, 540–542.

Keywords: Retention/academic integration/orientation course.

Type of Study: Quantitative, single institution/university.

Methodology: Experimental with control group.

Size: 516 students – 85 in experimental group, 431 in control group.

Research Rigour: Acceptable – covariate analysis and chi square testing. Significant effect. (Strong and positive on retention).

Country of Origin: USA.

Abstract: This reports a study to assess the effects of an orientation course on retention of students into a second year. A much larger control group was also used. Results showed retention among those taking the orientation course was significantly higher than retention among those who did not.

Hrabowski, F. (1999). Creating a climate for success. *Presidency, 2*(1), 34–39.

Keywords: Institutional culture/diversity

Type of Study: Qualitative, single institution

Methodology: Focus groups.

Size: Not known.

Research Rigour: Description only. No statistical analysis.

Country of Origin: USA.

Abstract: Examines the historical mission of the university of Maryland Baltimore County and the success of programmes designed to enhance the academic achievement of African-American students, particularly in the sciences and engineering. Concludes that making minority achievement and diversity part of the core values of the institution has been crucial in the success of the programs.

Huon, G., & Sankey, M. (2000). *The transition to university: Understanding differences in success*. Paper delivered at the First Year Experience Conference, 2000.

Keywords: Retention/transition/diversity/social integration/mentoring.

Type of Study: Quantitative, single institution/university.

Methodology: Self-report questionnaire.

Size: 530 first-year students.

Research Rigour: Inferential statistics used. Significant effects $p<.05$ for a number of factors.

Abstract: This paper presents findings from a study of transition to university conducted with 530 students at an Australian university. It aimed to identify predictors associated with successful transition and factors associated with increased probablility of discontinuing. Sutdent identity, academic application, social involvement and perception of independent learning were significant predicotrs of transition success; student identity playing the major role; however, sex and English as a first language moderated these effects. Academic performance was also significant in discontinuing and as a medaotr of other significant effects. Some strategies for universities are suggested.

James, K. (2001). There are doorways in these huts: An empirical study of educational programs, native Canadian student needs, and institutional effectiveness in British Columbia and Ontario, Canada. *Journal of American Indian Education, 40*(3), 24–35.

Keywords: Diversity/integration/institutional culture

Type of Study: Quantitative and qualitative, multiple institution.

Methodology: Surveys, archival information, examination of documentation.

Size: 27 institutions.

Research Rigour: Acceptable. Factor analysis and regression analysis.

Country of Origin: Canada.

Abstract: This study examined characteristics of Native Canadian educational programming that might influence Native student success at 27 colleges and universities in British Columbia and Ontario. Presence or absence of an advisory board composed of Native community members, numbers of Native faculty members, and how well institutional systems fit with Native students' cultures and communities were significant predictors.

Johnson, J. L. (2000–2001). Learning communities and special efforts in the retention of university students: What works, what doesn't and is the return worth the investment? *Journal of College Student Retention, 2*(3), 219–238.

Keywords: Retention /achievement /GPA /learning support /supplemental instruction /integration /social integration/academic integration.

Type of Study: Single Institution quantitative study.

Methodology: Survey by questionnaire; autopsies of student records and cost effectiveness analysis.

Size: 531 students.

Research Rigour: Acceptable. t tests and ANOVAs were conducted to assess differences between 4 researched groups and a control group.

Country of Origin: USA.

Abstract: Retention has been a topic of concern and study for decades in American universities. Over the past 5 to 10 years it has become an area in which more efforts have been focused. At a comprehensive 4-year higher education institution in the north-eastern United States, several special programs have been developed, implemented and evaluated over a 2-year period. The four programs are all unique in their configuration but alike in their underlying goal – to increase retention. Results of this evaluative research study revealed the two learning communities were more effective in retaining students than the two non-learning community programs.

Jonides, J., & Gregerman, S. (1996). *Evaluation and dissemination of an undergraduate program to improve retention*. Lessons Learned from FIPSE Projects III. University of Michigan. Retrieved from the world wide web 16 December 2002 at

http:// www.ed.gov/offices/OPE/FIPSE/michigan.html

Keywords: Retention/learning support/student support/academic/peer tutoring /mentoring/ relationships/academic/student/staff

Type of Study: Quantitative, single institution/university.

Methodology: Autopsy of student records and student and staff surveys.

Size: 853 participants in experiment; 837 students in control group.

Research Rigour: Acceptable using descriptive statistics. Uses control group.

Country of Origin: United States.

Abstract: Reports a project that matches first and second year students with lecturer in collaborative research projects. Results show participants' retention rates are higher, particularly for African American students; GPAs are higher; the programme seems to have most benefit for students with the lowest pre-entry academic performance. Social and psychological changes, e.g. self-esteem and positive attitudes toward multicultural campus, are also apparent.

Kell, C., & Van Deursen, R. (2002). Student learning preferences reflect curricula change. *Medical Teacher, 24*(1), 32–40.

Keywords: learning preferences/curricula change/learning environment

Type of Study: Quantitative, single institution/university.

Methodology: Questionnaire (Self-Directed Learning Readiness Scale; Learning Preference Inventory) 3 administration points.

Size: 109 in a complete cohort.

Research Rigour: Cohort changes were plotted and tested for significance ($p<.05$) using a repeated measures ANOVA. Effects were weak but positive.

Country of Origin: UK.

Abstract: This study measures learning preference over time of two undergraduate student cohorts experiencing different curricula presentations of the same syllabus. At intake, preference was for concrete, fact-based, teacher structured environment. Changes, attributed to different curricula approaches, occurred over time.

Kozel, K. (2002). *Establishing a learning community: Focus on students through mentoring*. Unpublished paper, Northland Polytechnic.

Keywords: learning community/mentoring

Type of Study: Qualitative and quantitative, single institution/polytechnic.

Methodology: Action research and questionnaire.

Size: Two-year project with different numbers of participants ranging from 64 to 76.

Research Rigour: Acceptable. Action research cycles carried out; questionnaires analysed for descriptive statistics only. Moderate but positive effect.

Country of Origin: New Zealand.

Abstract: The paper reports on a guided orientation programme using mentoring in a business faculty of a New Zealand polytechnic. Data suggest that when mentored, new students move from the periphery of faculty life to the centre – to full participation as mentors in the following year. Mentoring also seems to have beneficial effects on retention as the mentoring relationship is prized as an insurance policy against problems.

Krishnamurthi, M. (2003). Assessing Multicultural Initiatives in Higher Education Institutions. *Assessment and Evaluation in Higher Education, 28*(3), 263–277.

Keywords: Diversity/institutional climate

Type of Study: Quantitative and qualitative, single institution.

Methodology: Case study; pre- and post-surveys.

Size: Total numbers not given.

Research Rigour: Acceptable. Descriptive statistics.

Country of Origin: USA.

Abstract: As educational institutions engage in promoting multiculturalism on campuses, it becomes essential to assess the quality and success of those initiatives. This paper describes the plan being implemented at Northern Illinois University to assess multicultural initiatives. The plan is to ensure that faculty, staff and students participate and benefit from multicultural curricula and related programmes; courses and curricula continue to be multiculturally transformed; multicultural curricular transformation and support program needs are being met; students obtain and demonstrate the necessary multicultural competencies; and the campus is supportive of multicultural initiatives at all levels of the university. The paper describes the range of multicultural initiatives pursued in higher education institutions and the considerations necessary in assessing such initiatives. The plan described in this paper makes use of existing assessment mechanisms as well as a few new ones designed and implemented in several phases. The results and findings from the assessment along with recommendations for improving the initiatives are discussed. The paper concludes with a discussion of the real challenges of the plan and issues to consider when assessing multicultural initiatives in a higher education institution.

Laing, C., & Robinson, A. (2003). The withdrawal of non-traditional students: Developing an explanatory model. *Journal of Further and Higher Education, 27*(2), 175–185.

Keywords: Learning environment/retention/withdrawal/integration

Type of Study: Qualitative, single institution.

Methodology: Structured and unstructured interviews.

Size: Not given but small.

Research Rigour: Grounded analysis. No statistical data.

Country of Origin: UK.

Abstract: In the past decade there has been a dramatic growth in UK student numbers, with students from non-traditional and under-represented groups being encouraged to participate in higher education. However, levels of withdrawal in those higher education institutions that have a greater proportion of non-traditional students have also been increasing. These institutions have introduced various strategies in an effort to cope with this problem, but unfortunately current models offer little in the way of explaining the causes of (and little justification for the strategies used to reduce) withdrawal. It is proposed that in attending to the explanations of withdrawal, consideration be given to discovering the underlying characteristics of the teaching and learning environment and the manner in which students' perceptions and expectations of that environment may impact on their decision to withdraw. An ethnographical study using an explanation of the teaching and learning environment as it

relates to the students' beliefs, the actions between the student and staff and the intentions of the institution. The results of this initial study are presented. These results represent a preliminary 'grounded' model of the teaching and learning environment of the Technology Faculty at Southampton Institute.

Lake, D. (1998). *Helping under-prepared students*: *Teaching and learning in changing times*. The Proceedings of the 7th Annual Teaching and Learning Forum. Nedlands, Western Australia.

Keywords: Institutional culture/academic integration/supplemental instruction.

Type of Study: Quantitative and qualitative, single institution/university.

Methodology: analysis of student records and evaluation questionnaires.

Size: Analysis of student records -64; 20 questionnaire returns.

Research Rigour: Acceptable: Descriptive statistics with congruent support from qualitative questionnaire.

Country of Origin: Australia.

Abstract: This paper reports the efforts of Murdoch University to improve student outcomes through a credit-bearing course (A120) attempting to improve academic and social integration. Despite only enrolling those students initially floundering in other subjects and considering withdrawal, A120 students performed beyond expectations in all subjects, with few failures and many exceptional grades. Students attributed their success to A120's personal approach.

Lizzio, A., Wilson, K., & Simons, R. (2002). University students' perceptions of the learning environment and academic outcomes: Implications for theory and practice. *Studies in Higher Education, 27*(1), 27–52.

Keywords: student perceptions/academic environment/teaching/approaches to learning

Type of Study: Quantitative, single institution (university).

Methodology: Autopsy of student records and survey questionnaires.

Size: 646 students.

Research Rigour: Acceptable. Path and regression analysis to fit the 3 P model. A good fit was reported.

Country of Origin: Australia.

Abstract: Studies the relationship between university students' perceptions of the academic environment, their approaches to study and academic outcomes. Large, cross-disciplinary sample of undergraduate students. Hard and soft outcomes. Student perceptions of their current learning environment are a stronger predictor of learning outcomes than prior achievement at school.

Mackie, S. E. (2001). Jumping the hurdles: Undergraduate student withdrawal behaviour. *Innovations in Education and teaching International, 38*(3), 265–276.

Keywords: Retention /withdrawal /social integration /academic integration /institutional culture /context / finances.**Type of Study**: Qualitative and quantitative, single institution/business school.**Methodology**: Forcefield analysis and survey.

Size: 450 students.

Research Rigour: Acceptable use of inferential statistics using factor analysis. Moderate effects.

Country of Origin: UK.

Abstract: This paper explores undergraduate student withdrawal behaviour in a UK Business School. Particular attention is given to the complex interplay of forces – personal, institutional and contextual/external – that lead to students' decisions to leave or to stay. A comparative study is made of the experiences of those who have left and those who experienced similar difficulties but chose to remain. Integration into social and academic aspects of university life and contextual issues are key. The difference between the two groups is the level of commitment to the university experience – individual forces. Homesickness, financial difficulties, perceived levels of control over events and alienation also impact on decisions to withdraw.

Mangold, W., Bean, L., Adams, D., Schwab, W., & Lynch, S. (2002–2003). Who goes who stays: An assessment of the effect of a freshman mentoring and unit registration program on college persistence. ***Journal of College Student Retention, 4(*****2), 95–122.**

Keywords: Academic integration /social integration /supplemental instruction /freshman program /mentoring.

Type of Study: Quantitative, single institution/university.

Methodology: Event history models (follow back life tables and Discrete-Time Logit Models).

Size: 302 students.

Research Rigour: Acceptable. Inferential statistical treatments produced strong and positive effects.

Country of Origin: USA.

Abstract: We present an evaluation of a freshman block registration and mentoring program at a major state university. In an effort to improve retention, the University initiated a freshman block registration and mentoring program in the fall of 1994. The program was developed to strengthen social support, which we hypothesise leads to higher rates of persistence. We present the effects of the program on retention and academic performance for successive cohorts from 1994 through 1998. Academic performance and retention rates are used as outcome measures and are related to student and university characteristics. We describe the nature of the program and the impact that it has on persistence (survival times), grades, and graduation. Our analysis uses event history models (follow back life tables and Discrete-Time Logit Models).

Martinez, P., & Munday, F. (1998). ***9,000 Voices: Student persistence and drop-out in further education.*** **FEDA report, Vol. 2 (7). London: Further Education Development Agency.**

Keywords: Retention /social integration /academic integration /relationships /learning support/institutional culture

Type of Study: Quantitative and qualitative, multi-institutions/Colleges of Further Education.

Methodology: Mass survey questionnaire supplemented by focus groups.

Size: 9000 students in 31 colleges; 500 students, teachers and managers participated in meetings and discussions.

Research Rigour: Acceptable although statistics are descriptive.

Country of Origin: United Kingdom.

Abstract: A report from the largest study of persistence and drop-out ever undertaken in the UK. Brings together considerable information on factors that influence drop-out and makes recommendations for Colleges. Includes discussion of pre-entry guidance and admission, curriculum design and delivery, student support.

McInnis, C., & Hartley, R. (2002). ***Managing Study and Work.*** **Canberra: Commonwealth Department of Education, Science and Training.**

Keywords: Academic integration/social integration/economics

Type of Study: Quantitative, multi-institutional/ university.

Methodology: Large survey.

Size: 1563 students.

Research Rigour: Acceptable – uses descriptive statistics. Shows moderate effects.

Country of Origin: Australia.

Abstract: More full-time undergraduate students now rely on paid work as their main or sole source of income. They work an average of around 15 hours per week, but almost four out of every ten work 16 hours or more, and 18% work 21 hours or more per week. The extent to which full-time undergraduate students combine full-time enrolment with substantive hours of paid work emerged as an issue for Australian universities in the last few years. Our title reflects a belief that the new realities of study and engagement with university are not just matters for individual students but also present universities with a set of circumstances that require strategic management. This investigation – based on a survey of 1563 full-time enrolled working students – explores the impacts of paid work on full-time students' experiences of university life and their academic performance. It also briefly reviews how universities are responding to these challenges.

McInnis, C. & James, R. (1994). ***Gap or Gulf? Student perspectives on the transition to university in Australia*****. Inaugural Pacific Rim – First Year Experience Conference. Queensland University of Technology.**

Keywords: Social integration/academic integration

Type of Study: Quantitative, multi-institutional/university.

Methodology: Survey Questionnaire.

Size: More than 4000 students.

Research Rigour: Acceptable use of descriptive statistics. Moderate effects.

Country of Origin: Australia.

Abstract: This paper provides an overview of current patterns of student transition to university in Australia. The focus of the paper is on the formation of student identity, sense of purpose and academic orientation. This draws attention to variations in learning climates, and the social nature of learning in university. The major thrust is on the nature and extent of diversity in the first-year experience.

McInnis, C., James, R., & Hartley, R. (2000b). ***Trends in the first year experience in Australian universities, 2000*****. Melbourne: Department of Employment, Education, Training and Youth Affairs.**

Keywords: First-year experience/finance/employment/commitment/ expectations.

Type of Study: Multi-institutional quantitative study.

Methodology: Survey of students' attitudes and perceptions of their first-year university experience.

Size: 2609 across 7 universities.

Research Rigour: Not strictly speaking an outcome study. Acceptable use of descriptive statistics.

Country of Origin: Australia.

Abstract: This report provides an analysis of trends in the perceptions and behaviours of first-year undergraduate students in seven Australian universities. Data from a 1994 study are compared with data gathered in 1999 to identify trends. Patterns of stability and change are identified. Findings of particular interest to the Student Outcomes Project include: there is little change in the considerable number of students who have a very uncertain start at university (reasons include lack of accurate information, poor course choices, failure to get their first choice, unrealistic expectations of the amount of work and time involved); about one-third considered deferring during their first semester; more students are combining work and study and more are working longer hours; there is a trend towards less attachment and commitment to a range of aspects of university life.

McInnis, C., James, R., & McNaught, C. (1995). ***First year on campus: Diversity in the initial experiences of Australian undergraduates*****. Melbourne: Centre for the Study of Higher Education, University of Melbourne.**

Keywords: Adjustment/first-year experience/social integration/academic integration

Type of Study: Quantitative, multi-institutional/university.

Methodology: Survey questionnaire.

Size: 4028 students across 7 institutions.

Research Rigour: Acceptable use of descriptive statistics. Moderate effects. Not, strictly speaking, an outcome study, but should be included as background.

Country of Origin: Australia.

Abstract: The project was commissioned by the Committee for the Advancement of University Teaching to examine the initial experience of on-campus undergraduates, with particular reference to the role and significance of the social context of learning. The report looks beyond the effects of sheer numbers to ways of improving teaching in the face of greater diversity in the first-year student population.

McKenzie, K. & Schweitzer, R. (2001). Who succeeds at university? Factors predicting academic performance in first-year Australian university students. ***Higher Education Research and Development, 20*****(1), 21–33.**

Keywords: Academic performance/achievement/integration/employment

Type of Study: Quantitative, single institution.

Methodology: A questionnaire measuring demographic, academic and psychosocial variables, cognitive appraisal and study skills.

Size: 197 first-year students.

Research Rigour: Acceptable. Regression analyses, one-way ANOVA.

Country of Origin: Australia.

Abstract: With the increasing diversity of students attending university, there is a growing interest in the factors predicting academic performance. This study is a prospective investigation of the academic, psychosocial, cognitive, and demographic predictors of academic performance of first-year Australian university students. Questionnaires were distributed to 197 first-year students 4 to 8 weeks before the end of semester exams and overall grade point averages were collected at semester completion. Previous academic performance was identified as the most significant predictor of university performance. Integration into university, self-efficacy, and employment responsibilities were also predictive of university grades. Identifying the factors that influence academic performance can improve the targeting of interventions and support services for students at risk of academic problems.

Mohr, J. J., Eiche, K. D., & Sedlacek, W. E. (1998). So close, yet so far: Predictors of attrition in college seniors. *Journal of College Student Development*, *39*(4), 343–354.

Keywords: Retention/integration/course completion

Type of Study: Qualitative and quantitative single institution.

Methodology: A 10–15 minute semi-structured telephone interview using two protocols – one for students who had re-enrolled, the other for non-returning students. The interview used Likert-type questions and open-ended questions.

Size: 90 undergraduate students; 48 enrolled, and 42 not currently enrolled and had not completed their degree.

Research Rigour: Acceptable. Analysis of qualitative data reveals reasons for disenrolment, what students were doing instead and whether they planned to return to university in future. It also identifies four dimensions of dissatisfaction with the institution. Descriptive statistics show effect size comparisons for returning/non-returning students on six scales – personal contact, campus involvement, alienation, guidance, education, policies.

Country of Origin: USA.

Abstract: The purpose of the study was to identify issues relevant to non-transfer college seniors who disenrol from their academic programs before graduating. Interview data indicated college seniors offered a variety of reasons for disenrolling, e.g. financial, transfer, moving, needing a break, etc. Quantitative analyses suggested non-retention of seniors was best predicted by dissatisfaction with academic guidance, dissatisfaction with access to school-related information, dissatisfaction with quality of education, and feelings of institutional alienation.

Molivar, D. (1996). The impact of institutional effectiveness on student retention. Paper presented at the AIR Annual Forum. ERIC ED 397721.

Keywords: Retention/institutional culture/services

Type of Study: Quantitative, single institution.

Methodology: Analysis of administrative records (demographic data, standardised test scores, academic performance data) and two surveys.

Size: 3000 freshmen/first year students.

Research Rigour: Acceptable. Statistical tests of significance.

Country of Origin: USA.

Abstract: A study at Barry University (Florida), a private urban, comprehensive university investigated factors in in student retention. Demographic data, standardized test scores, and academic performance data were gathered for almost 3000 students entering the university between fall 1991 and spring 1995. The students were also surveyed on expectations during orientation classes, and again on satisfaction with college experience after 6 weeks of classes. Analysis of the data suggests that while institutional effectiveness, interpreted as consumer satisfaction with academic studies, business services and student life, has only modest influence on student academic success and attrition. Even when customer satisfaction is given the broadest definition to include satisfaction with friends and off-campus social life, it has barely one-tenth the power of GPA alone to predict student persistence accurately.

Monk, T. (1998). ***Variables associated with academic achievement of African-American males in 4-year undergraduate educational institutions: A synthesis of studies*****. PhD thesis: Virginia Polytechnic Institute and State University.**

Keywords: Achievement/social-emotional/institutional culture

Type of Study: Synthesis of studies

Methodology: A review of 13 studies

Size: 13 studies, 48 variables

Research Rigour: Acceptable. Reports on methodologies used in studies but does not integrate findings using effect size.

Country of Origin: USA

Abstract: A synthesis of 13 studies of the academic achievement of African-American males in undergraduate 4-year institutions. One purpose was to identify variables associated with achievement for African males. Forty-eight variables were identified; five of these were institutional. The major finding on these variables was that African-American males who attended predominantly black colleges and universities earned higher grade-point averages than those who attended predominantly white colleges and universities.

Moore, D., Townsend, M., Wilton, K., & Tuck, B. (1995). Effects of cooperative and individualistic learning structures in a university research methods laboratory class. ***New Zealand Journal of Educational Studies, 30*****(1), 77–81.**

Keywords: learning environment/relationships/learning communities/cooperative learning

Type of Study: Quantitative, single institution

Methodology: Students were randomly assigned into cooperative and individual learning environments. At the end of the course an 11-item Likert scale evaluative questionnaire was used.

Size: 220 students.

Research Rigour: Acceptable. Analysis of variance and statistical significance.

Country of Origin: New Zealand.

Abstract: Examines the relative effects of cooperative learning structures and individualistic instructional structures on the achievement and interpersonal relationships of students in a large undergraduate course in educational psychology. Considers the impact of laboratory classes for university students to evaluate the use of cooperative learning structures.

Padilla, R. V., Trevino, J., Gonzalez, K., & Trevino, J. (1997). Developing local models of minority student success in college. *Journal of College Student Development, 38*(2), 125–135.

Keywords: Retention/integration/institutional culture/cultural capital

Type of Study: Qualitative, single institution.

Methodology: Dialogue groups and unfolding matrix procedure.

Size: 28 participants.

Research Rigour: Acceptable. Qualitative analysis of unfolding matrix identified four categories of barriers for minority students.

Country of Origin: USA.

Abstract: This study was designed to reveal the strategies successful minority students employ to overcome barriers to academic success in college. Departing from the traditional research that leads to what students do 'wrong' that leads to leaving college, an innovative technique was used that assesses the informal knowledge required by minority students to succeed in a specific campus.

Peat, M., Dalziel, J., & Grant, A. M. (2001). Enhancing the first year student experience by facilitating the development of peer networks through a one-day workshop. *Higher Education Research and Development, 20*(2), 199–215.

Keywords: Transition/ academic integration/ social integration/ academic achievement/ orientation course

Type of Study: Qualitative and quantitative, single institution.

Methodology: Survey using open and closed questions. Weighted average mark for academic performance.

Size: 286 completed surveys; 169 who met three requirements for inclusion in second phase.

Research Rigour: Acceptable. Quantitative analysis of academic performance using mean scores, significance and correlations. Comparison of outcomes for attendees and non-attendees at a transition workshop. Survey with qualitative analysis of open-ended questions.

Country of Origin: Australia.

Abstract: This article reports on research conducted at the University of Sydney into the effect of a 1-day Transition Workshop for science students on academic achievement and social integration during the first year. Statistical analysis revealed attendees exhibited significantly better adjustment on a range of measures and higher levels of academic performance (on average) than those who did not attend. Qualitative evaluation showed the workshop facilitated the establishment of strong peer relationships and these enhanced study, self-motivation and general enjoyment of university life, easing the transition to university.

Rabbitt, E. (1999). ***We do it our way: A study of a two-way learning exchange for external students in remote Western Australia*****. Paper presented at the Joint Annual Conference of the Australian Association in Education and New Zealand Association for Research in Education. Retrieved from: http://www.aare.edu.au/99pap/rab99445.htm**

Keywords: Learning styles/indigenous people/relationships

Type of Study: Qualitative, single institution.

Methodology: An action research observational case study,

Size: 8 students.

Research Rigour: Acceptable for this type of research. Descriptive.

Country of Origin: Australia.

Abstract: Investigates the learning styles of a group of Aboriginal students completing an external mainstream course in a remote enclave situation. Classroom practices have been modified to accommodate the shortcomings of the mainstream curricula. This was to encourage a dynamic interactive cross-cultural exchange between the students and their non-indigenous teachers. The acknowledgement of cultural diversity and dialogue is highly valued. As a result, the students' learning styles, their retention and success rates are positively affected. This method of teaching lends itself to a two-way cultural learning exchange based on attitudes and awareness. The recognition that incidental learning takes place has implications for non-indigenous teachers instructing indigenous students from a variety of backgrounds. This paper examines the intricacies of such student-teacher relationships and how they impinge on positive student outcomes.

Reyes, N. (1997). Holding on to what they've got. ***Black Issues in Higher Education*****,** ***13*****(26), 36–40.**

Keywords: Retention/learning support/supplemental instruction/academic advice

Type of Study: Quantitative and qualitative multiple institution.

Methodology: Institutional statistics on graduation rates for ethnic groups. Comments from staff.

Size: Over 43 000 undergraduate students.

Research Rigour: Acceptable. Basic statistics on graduation rates.

Country of Origin: USA.

Abstract: Successful efforts on student retention programs of six large institutions are presented, each intended to keep the students academically responsive. Academic supports such as academic and careers advising, tutorials and offering of intensive courses are described and analysed.

Richardson, R., & Skinner E. (1990). Adapting to diversity: Organizational influences on student achievement. ***Journal of Higher Education, 61*****(5), 485–511.**

Keywords: Diversity/institutional culture

Type of Study: Quantitative and qualitative, multiple institutions.

Methodology: Analysis of case studies.

Size: 10 institutions.

Research Rigour: Acceptable for this type of research.

Country of Origin: USA.

Abstract: A model of institutional adaptation to diversity emerged from case studies of 10 public universities. The model depicts state policy influencing the priorities and practices of work groups within a university. The resulting adaptation of organizational culture leads to improvements in participation and graduation for minorities.

Rickinson, B., & Rutherford, D. (1996). Systematic monitoring of the adjustment to university of undergraduates: A strategy for reducing withdrawal rates. *Studies in Higher Education*, *24*(2), 213–225.

Keywords: Integration/ institutional services/ adjustment/ academic integration/ social integration/ counselling

Type of Study: Quantitative and qualitative single institution.

Methodology: Postal questionnaire and telephone interviews.

Size: 89 questionnaire responses; 29 were interviewed.

Research Rigour: Acceptable. Qualitative analysis of responses; frequency data from questionnaires.

Country of Origin: UK.

Abstract: The experience of students withdrawing from university in their first year is explored. The students' perceptions of the factors that influenced their withdrawal decisions are examined. The findings support the hypothesis that the main factor influencing withdrawal/persistence behaviour is the degree to which students can adjust to the new academic and social demands of the university environment. A departmental strategy for systematic monitoring of the adjustment to university of first-year undergraduates is outlined.

Roth, M., & Weiner, M. (1996). *Access to science study (PASS).* Lessons Learned from the FIPSE Projects III. Retrieved on 23/10/2002

http://www.ed.gov/offices/OPE/FIPSE/LessonsIII/city/html

Keywords: Retention/student support/learning support/Supplemental instruction

Type of Study: Quantitative and qualitative single institution.

Methodology: Retention rates and correlation of PASS grades with GPA and performance in subsequent science and math courses; instructor evaluation and student self-evaluation.

Size: Not specified. Approximately 200.

Research Rigour: Acceptable. Simple correlations of pass grades and course grades.

Country of Origin: USA.

Abstract: Reports on a project that focused on developing problem solving, complex reasoning and personal management skills in a programme for access to science study (PASS). PASS students had significantly higher retention rates, developed positive attitudes and behaviours that lead to academic success, e.g. problem solving and managing personal lives.

Saenz, T., Marcoulides, G., Junn, E., & Young. R. (1999). The relationship between college experience and academic performance of minority students. *International Journal of Educational Management, 13*(4), 199–207.

Keywords: culture/minorities/achievement

Type of Study: Quantitative single institution.

Methodology: Questionnaire.

Size: 30 students.

Research Rigour: Acceptable. Structural equation modelling.

Country of Origin: USA.

Abstract: A number of factors have been identified as important to the retention and success of minority students. Foremost among these factors are college experience variables like academic integration. The purpose of the study was to model the relationship between college experience and academic performance for minority students. Using structural equation modelling techniques, a model of the college experience consistent with past research was proposed and tested. The results provide support for the proposed model.

Salinas, A., & Llanes, J. R. (2003). Student attrition, retention and persistence: The case of the University of Texas Pan American. *Journal of Hispanic Higher Education, 2*(1), 73–97.

Keywords: Persistence/institutional culture/external factors/administration

Type of Study: Quantitative single institution.

Methodology: Ex post facto (causal comparative).

Size: 1425 students.

Research Rigour: Acceptable. Descriptive statistics (means, standard deviations, significance).

Country of Origin: USA.

Abstract: Reports on a causal-comparative study of 1425 students constituting the entire cohort of 1992 entering freshmen/first-year students at the University of Texas Pan American. The study compares the characteristics of the cohort who left before graduation, those who were retained and graduated within 6 years, those who left and did not return, and those who returned and ultimately graduated. Using persistence models, the study reveals a pattern of student behaviour and student characteristics to each group that indicates how to identify and assist students in danger of not completing their education.

Schroeder, K. (1996). The impact of diversity on students. *Education Digest, 62*(3), 72–73.

Keywords: Diversity/institutional climate/retention/achievement

Type of Study: Synthesis of studies - quantitative and qualitative, multi-institutions

Methodology: Synthesis of studies.

Size: 125 studies

Research Rigour: Acceptable. Draws conclusions from the synthesis.

Country of Origin: USA.

Abstract: This article summarises findings from 125 recent studies on the effects of campus diversity projects on student outcomes and points to an important shift in the way 4-year institutions approach diversity on campus. Over time, efforts that initially focused on programmes to help new students adjust to the larger campus community have expanded to include projects to transform the curriculum, diversity the faculty and improve campus climate. Recently the larger purpose of many diversity initiatives has been to make institutional change needed to educate successfully a diverse body of students to live and excel in a complex, pluralistic society.

Schulte, L. E., Thompson, F., Hayes, K., Noble, J., & Jacobs E. (2001). Undergraduate faculty and student perceptions of the ethical climate and its importance in retention. *College Student Journal, 35*(1), 565–577.

Keywords: Retention/institutional culture/institutional processes/social integration/academic integration.

Type of Study: Quantitative, single institution.

Methodology: Ethical Climate Index survey.

Size: 281 students; 37 staff.

Research Rigour: Acceptable use of descriptive statistics.

Country of Origin: USA.

Abstract: A Likert type survey was used to gauge the importance given to the ethical climate as a retention factor to 281 graduate students and 37 staff in a USA mid-western university. The retention scale was constructed from an Ethical Climate Index comprising 103 items that has been used with an earlier study.

Schwartz, R. A., & Washington, C. M. (1999). Predicting academic success and retention for African-American women in college. *Journal of College Student Retention, 1*(2), 177–191.

Keywords: Retention/persistence/Afro-American/diversity/institutional climate/institutional culture

Type of Study: Quantitative, single institution.

Methodology: Questionnaire including 23 Likert-type items, a categorical item and two open-ended questions.

Size: 213 women students.

Research Rigour: Acceptable. Descriptive statistics, regression coefficients, significance.

Country of origin: USA.

Abstract: This study examined the academic success and retention of 213 first-year, female African-American college students at a historically black, private, liberal arts college in the south-east USA. The women were surveyed about their preparation and readiness for college during their first weeks on campus. Responses were then compared against actual academic performance and retention during the first year of college.

Spours, K. (1997). Issues of student retention: An initial study of staff perceptions. *Research in Post-Compulsory Education, 2*(2), 109–119.

Keywords: Retention/diversity/institutional climate

Type of Study: Qualitative multiple institutions.

Methodology: Interviews with staff.

Size: Not given.

Research Rigour: Acceptable for this type of study. Reports themes from interviews. Does not provide information about analysis process.

Country of Origin: UK.

Abstract: Using findings from a small case study of five FE colleges, this article argues that, in the mid-1990s, approaches to tackling student retention were often hindered by colleges' preoccupation with FEFC funding methodologies. and goes on to argue that if colleges are to create a staff consensus on improving student retention, they have to take an education-led, rather than a funding-led approach.

Strauss, L. C., & Volkwein, J. F. (2001). *Predictors of student commitment at 2-year and 4-year institutions.* Paper presented at the annual meeting of the Association of the Study of Higher Education, Richmond, VA.

Keywords: Integration/institutional commitment

Type of study: Quantitative, multiple institution.

Methodology: Survey.

Size: 8217 students; 28 two-year and 23 four-year institutions.

Research Rigour: Acceptable. Descriptive statistics.

Country of Origin: USA.

Abstract: Examines predictors of institutional commitment of first-year students at 28 2-year and 23 4-year public institutions. Institutional commitment has been defined in a number of ways. Included in their definitions are students' overall impressions, satisfaction, belonging, perceptions of quality, match with and attraction to a particular institution. For the purposes of this study, student commitment is defined as a student's overall satisfaction, sense of belonging, impression of educational quality and willingness to attend the institution again. Results show institutional commitment scores are greatest for: (1) social integration; (2) classroom experience; (3) intellectual growth; (4) faculty interaction; (5) marriage; (6) social growth.

Szelenyi, K. (2001). Minority student retention and academic achievement in community colleges. Los Angeles: ERIC Clearinghouse for Community Colleges. ED451859.

Keywords: Retention/student support/integration/GPA/orientation/induction/diversity

Type of Study: Quantitative, multiple institution.

Methodology: Institutional data.

Size: Not known.

Research Rigour: Acceptable. Descriptive statistics.

Country of Origin: USA.

Abstract: The Digest reviews recent approaches and models for diverse learning environments; a specific focus on fostering retention and educational achievement amongst ethnic minority students at community colleges. Family and academic support factors emerged as playing a significant role in enhancing academic achievement and success. Also suggests an association exists between students' cultural background and preferred learning styles – e.g. African-American student achievement appears to be positively related to oral experiences and interpersonal relationships. Successful integration of students into college environments is a crucial element in retention. Integration includes freshmen seminars and mentoring programmes.

Thomas, L. (2002). Student retention in higher education: The role of institutional habitus. *Journal of Educational Policy*, *17*(4), 423–442.

Keywords: Retention/institutional culture/relationships/learning communities

Type of Study: Single-institution qualitative study.

Methodology: Focus group and questionnaire within a Bourdieu Habitus Framework.

Size: 32 students across the university.

Research Rigour: Acceptable for qualitative research. Uses direct reporting of interviews to aid interpretation/understanding of retention within the Bourdieu Habitus Framework.

Country of Origin: UK.

Abstract: This paper examines some of the issues surrounding student retention in higher education. It is based on the case study of a modern university in England that has good performance indicators of both widening participation and student retention. The two-fold nature of this success is significant, as it has been asserted greater diversity will necessarily lead to an increase in student withdrawal. Furthermore, changes to student funding in the UK put greater financial pressure and stress on students, especially those from low-income groups. Nevertheless, many students cope with poverty, high levels of debt and significant burdens of paid work to successfully complete their courses of study. Drawing on the work of Raye et al. (2001), this paper adopts and explores the term 'institutional habitus', and attempts to provide a conceptual and empirical understanding of the ways in which the values and practices of a higher education institution impact on student retention.

Tinto, V. (1997). Classrooms as communities: exploring the educational character of student persistence. *Journal of Higher Education, 68*(6), 599–644.

Keywords: Persistence/relationships/learning community

Type of Study: Quantitative and qualitative single institution.

Methodology: Survey and qualitative case study using participant observation, interviews and document review.

Size: 517 responses to the first questionnaire; and 287 to the second. 45 open-ended interviews; 20 telephone interviews; 36 semi-structured interviews.

Research Rigour: Acceptable. Statistics include significance and logistic regression analysis. Qualitative data analysis reports themes.

Country of origin: USA.

Abstract: The school classroom is where academic and social involvement occurs, particularly for students, and can therefore be used as a central tool by educators to promote

student persistence. Seattle Central Community College has made an effort to positively change the student classroom experience through the use of learning communities and collaborative learning techniques. A multi-method, quantitative and qualitative study of the school's initiative is evaluated.

Treisman, U. (1993). ***The professional development program at the University of California-Berkeley*****. FIPSE Project Paper. Retrieved from:**

http://www.ed.gov/offices/OPE/FIPSE/Lessons.cal-brek.html

Keywords: Retention/learning support/student support/supplemental instruction/diversity/ African-American

Type of Study: Quantitative single institution.

Methodology: Analysis of grades, dropout rates and graduation data.

Size: Not given.

Research Rigour: Acceptable. Basic data presented as percentages.

Country of Origin: USA.

Abstract: This paper is one of a series of reports on the FIPSE Projects II from 1993. It reports on the successful use of supplemental maths workshops with African-American and Hispanic students in several institutions. Results are claimed to be dramatic with higher grades, more completions and fewer dropouts.

Turner, A. L., & Berry, T. R. (2000). Counseling center contributions to student retention and graduation: A longitudinal assessment. ***Journal of College Student Development, 41*****(6), 627–636.**

Keywords: Retention/counselling/learning support

Type of Study: Quantitative single institution.

Methodology: Student records held in the Student Information System and the Counselling Center.

Size: 2365 counselled students; 67026 general students.

Research Rigour: Acceptable. Descriptive statistics.

Country of Origin: USA.

Abstract: This study explored the impact of counselling on academic progress and retention, using both objective and self-report measures from records of counselling clients (n=2365) and the general student body (n=67026) during 6 years at a Western state university. Counselled students showed a superior retention compared with peers.

Walker, R. (2000). ***Indigenous performance in Western Australia universities: Reframing retention and success.*** **Canberra: Department of Education, Training and Youth Affairs**.

Keywords: Retention/institutional culture/institutional processes/social integration

Type of Study: Quantitative and qualitative multiple institutions.

Methodology: Questionnaire, telephone interviews, focus groups, document analysis, email surveys.

Size: 268 students, 33 staff.

Research Rigour: Acceptable with descriptive statistics. Analysis of key topics and themes from open-ended questions and interviews.

Country of Origin: Australia.

Abstract: A number of personal, cultural, academic and institutional factors have been shown to influence student persistence and success positively. Indigenous students often find their educational experience inherently assimilationist, which in turn often leads to learning resistance. Most students who persisted with their studies held strong personal goals and family- and community-oriented motivations for studying. Many were able to move beyond 'assimilationist or resistive' options of education to acquire the knowledge and skills to achieve their goals without compromising their cultural values or identity. Most Indigenous staff and students perceived access to university as essential to transform their personal, family and community situations. Students talked about 'playing catch up', 'coming up equal' and 'being recognised' within a system that has historically excluded Indigenous Australians; many emphasised the importance of university as a site for 'cultural affirmation', 'gaining recognition for Indigenous knowledge' and 'building capacity' for social and political transformation.

Williford, M., Chapman, L. C., & Kahrig T. (2000–2001). The university experience course: A longitudinal study of student performance, retention, and graduation. *Journal of College Student Retention, 2*(4), 327–340.

Keywords: Retention/graduation/orientation course

Type of Study: Quantitative single institution.

Methodology: Control group; GPA; previous academic performance ACT test scores and high school percentile rank data.

Size: 4100 students attending UC115; 26679 students who did not attend UC115.

Research Rigour: Acceptable. Analysis of variance used as a descriptive tool.

Country of Origin: USA.

Abstract: This paper investigates the relationship between participation in an extended orientation course and student academic performance, student retention and student graduation. Ten years of participants in Ohio University's freshman 'University Experience' course were compared with comparable non-participants. The purpose of the course is to help students adjust to the demands of the university environment and develop long-term academic skills, which the results support.

Wilson, S. (2002). *Retention and success: A practical approach*. Paper delivered at the Adult Learning Conference: Whitireia Community Polytechnic.

Keywords: Retention/ completion/ mentoring/ orientation/ supplemental instruction / expectations

Type of study: Quantitative and qualitative, single institution.

Methodology: Questionnaire, focus group, document analysis, institutional data on retention.

Size: 6 programmes (student numbers not given).

Research Rigour: Basic analysis. Some means and retention percentages given.

Country of Origin: New Zealand.

Abstract: This paper reports on efforts to investigate and improve retention and success at a tertiary education institute. It provides a preliminary evaluation of some practical approaches that have been used at programme level. A literature review and Tinto's Longitudinal Model of Institutional Departure provided the theoretical underpinning for the work. A case study methodology was used, whereby a member of the institute's Academic Quality Unit has been working with staff involved in the delivery of selected programmes. The effects of pre-entry factors, institutional experiences, and students' social and academic integration were examined, and some interventions trialled. An academic mentoring scheme and personal education journal were introduced to help students develop their career, academic and personal goals. These were particularly successful. Other issues examined included pre-entry practices, orientation, learning style preferences, programme delivery and design, course materials, assessment, and attendance. It seems efforts in these areas can improve retention and success, although the results vary from programme to programme and what is applicable for one will not necessarily work in others. Whether students are retained and successful ultimately rests with the student. However, institutional actions and systems can make a difference.

Wilson, S.B., Mason, T.W. &. Ewing, M.J. (1997). Evaluating the impact of receiving university-based counselling services on student retention. ***Journal of Counselling Psychology, 44*****(3), 316–320.**

Keywords: Retention/learning support/counselling

Type of Study: Quantitative, single institution.

Methodology: Comparison of academic records to calculate retention data for students who had received varying numbers of counselling sessions.

Size: 562 students.

Research Rigour: Acceptable.

Country of Origin: USA.

Abstract: The academic record of 562 students who had requested counselling for personal concerns during a 1-year period were examined after a 2-year interval to determine academic outcome. Analyses showed that students receiving counselling enjoyed a retention advantage relative to non-counselled students. Results of a probit analysis showed a positive, negatively accelerating dose-response relationship between number of counselling sessions and student retention.

Wolfe, R. (1996). ***Supplemental instruction with mentoring support.*** **Lessons Learned from FIPSE Projects III. University of Michigan. Retrieved from the world wide web 16th December 2002 at**
http:// www.ed.gov/offices/OPE/FIPSE/michigan.html
Keywords: Retention/student support/learning support/supplemental instruction/mentoring
Type of study: Quantitative, single institution.
Methodology: Analysis of course grades and retention rates for students attending supplemental instruction compared with those who did not.
Size: 765 who attended SI; 1188 who did not attend SI.
Research rigour: Acceptable. Basic descriptive data presented.
Country of origin: USA.
Abstract: Reports on a project that used supplemental instruction and mentoring for

science, maths, business and social science courses. It was found participants' retention rates were higher, as were their grades and course completion rates were higher.

Yorke, M. (1998a). Non-completion of undergraduate study: Some implications for policy in higher education. *Journal of Higher Education Policy and Management*, *20* (2), 189–201.
Keywords: retention/non-completion
Type of Study: Quantitative, multiple institutions.
Methodology: Questionnaire, telephone interview.
Size: 6 institutions; 1083 questionnaire responses; 533 telephone interviews.
Research Rigour: Acceptable. Factor analysis of reasons for withdrawal and degree of variance for each factor identified. Comparison data across subject categories.
Country of Origin: UK.
Abstract: The extent to which students complete programmes of study, and the time 'completers' take are two matters of concern to policy makers, not least because of their implications for the consumption of national resources. This paper draws on a substantial study of non-completion in the North West of England, commissioned to provide information that could be used to guide policy for the funding of higher education institutions in England, and discusses some of the implications of the findings.

Yorke, M. (1999). *Leaving early. Undergraduate non-completion in higher education*. London: Falmer Press.
Key Words: Retention/integration/students finances
Type of Study: Multi-institutional quantitative study.
Methodology: Mail and telephone survey of non-completers identified from student records.
Size: 5512 students in 6 institutions in three different surveys.
Research Rigour: Acceptable. Inferential statistics using factor analysis.
Country of Origin: UK.
Abstract: This book reports on two surveys of students who had left during the academic year in 6 United Kingdom universities. Three main questions were addressed by the research: (i) what are the causes of non-completion; (ii) how much does non-completion cost the tax payer; and (iii) could non-completion be used as a performance indicator and, if so, what would be the likely implications. The book identifies 6 major factors in the departure decision: (i) poor quality of the academic experience; (ii) pressure of work;(iii) unhappiness with the extra-institutional environment; (iv) problems with relationships or finance; (v) dissatisfaction with some aspects of institutional provision; (vi) wrong choice of programme. The study estimates the cost of withdrawal to the taxpayer is about 3 percent of investment. The book suggests two ways in which withdrawal statistics may be used as a performance indicator.

Zeegers, M. (1999). *Triple 'S': Student support system as community practice*. Paper presented at the HERDSA Annual International Conference, Melbourne.
Keywords: Learning support/achievement/academic integration
Type of Study: Qualitative and quantitative single institution.
Methodology: Analysis of pass rates; description of Triple 'S' programme.
Size: Not given. Fewer than 100 undergraduate students.
Research Rigour: Few statistics. Mainly description of Triple 'S' programme.
Country of Origin: Australia.
Abstract: The Triple 'S' programme was designed to give a group of undergraduate students a chance at academic success based on making explicit in a systematic way the links between scholarly values and academic success and thereby tackling the high first-year failure rate. It

was a deliberate intervention born of perceptions of scholarly discursive practice at a time of dominance of economic rationalism in national policies applied to the university sector.

Zeegers, P. & Martin L. (2001). A learning-to-learn program in a first-year chemistry class. *Higher Education Research & Development 20*(1), 35–52.
Keywords: retention/achievement/learning support/academic integration
Type of Study: Quantitative single institution.
Methodology: Comparison of attrition rates of those attending the programme with subject results for previous year; comparison of class results for each semester; semi-structured interviews.
Size: 328 undergraduate students.
Research Rigour: Acceptable. Analysis of variance data; comparison of mean assessment outcomes, pass rates and attrition rates.
Country of Origin: Australia.
Abstract: This article describes a national teaching project that set out to address the problem of high student attrition and failure in a first-year introductory chemistry topic, through the introduction of a student-focused learning-to-learn programme presented in context and which uses authentic course materials. The programme focused on developing students' understanding of the learning process and of their own learning, both in general and in chemistry in particular. As part of the project the student approach to learning was evaluated and monitored by use of the Biggs study process questionnaire (SPQ). Results indicated students who participated in the program were less inclined to engage only in surface learning activities, achieved better assessment outcomes, and persisted with their studies. The 1997 class as a whole showed an overall increase in pass rate and a decline in attrition rate compared with the 1996 cohort. SPQ scale scores were generally now powerful predictors of academic success but positive correlation was observed with the deep approach and achieving approach scales for the third SPQ trial period.

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