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Doctor of Education (Ed.D.) Research Proposal

**PREDICTORS OF TERTIARY LEVEL PERFORMANCE IN NON-ENGLISH SPEAKING
BACKGROUND STUDENTS**

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ABSTRACT

To enter tertiary study in Australian universities, prospective students must demonstrate a minimum level of English Language Proficiency (ELP). Students who are struggling with their studies are often referred for extra generic English language skills tuition, which is designed to support learning across all discipline areas. Despite this, studies that have examined the relationship between ELP and subsequent academic performance have produced mixed results. Further language tuition also appears to be ineffective for a significant number of students, who continue to fail in their studies. Recent research has suggested a number of academic, cultural, and personal factors that may contribute to the success or failure of Non-English Speaking Background (NESB) international students in Australian tertiary education. The aim of the proposed research is to identify factors which predict the academic performance of NESB students in their first year of study at a private tertiary college in Western Australia.

INTRODUCTION

International students in Australia are big business. In a 2002 report from Victoria, Education was listed as the 10th largest export earner for Australia (Auditor General of Victoria, 2002). For the year 2000 (Australian Bureau of Statistics, 2003), international students generated \$3.7 billion¹ for the Australian economy, more than half of which came from the higher education sector. Education is also a growth industry, increasing from a total of 23,900 students in 1982 across all levels (primary, secondary and tertiary) to 72,700 in higher education alone in 2000 (Australian Bureau of Statistics: ABS, 2003). More recent estimates from IDP Australia (Campus Review, 2003) put the total number of international students in Australian universities at 114, 570.

Australia has been marketed as the ideal destination for further education. This has been based, at least in part, on the quality of its higher education courses (ABS, 2003). The ABS also identified a number of potential benefits of international studentship for Australian society, such as:

- recognizing the importance of educational exchange, especially with China, India and Indonesia,
- fostering cultural exchange and understanding, and
- increasing cultural diversity and capitalizing on skilled labour supply if international students become permanent residents.

The Australian Federal government's Department of Education, Science and Training (DEST, 2002) also states the potential advantages of 'internationalisation' for research collaboration, staff, curriculum and student development, and benchmarking exercises.

According to figures for the year 2000 (DEST, 2002), 64% of funding for higher education comes from the federal government. Of the remainder, 20 per cent comes from fees paid by domestic under- and post-graduate students, whilst 10 per cent comes from full-fee paying international students. In recent times, the federal government has reduced its contribution to the higher education sector, which it ascribes to an aging population and the resultant shrinking workforce, and therefore the reduction in the tax base from which it funds infrastructure and services to the Australian public. As a result, Australian universities have necessarily become more entrepreneurial in their approach to seeking stable, and preferably increasing, sources of revenue. Little wonder, then, that increasing the numbers of international students has been seen as a priority for these institutions.

¹ All amounts are in Australian dollars.

It is believed that international student numbers still have the potential to grow significantly (DEST, 2002). These students do not, however, simply arrive and further their education. The Australian government, as for any international visitor, has visa requirements that potential university students must meet before acceptance into the country. There is currently some debate on how stringent the criteria for entry should be, but:

...[it is] evident that the quality of Australian higher education needs to be maintained. Any lowering of curriculum or assessment standards, or worse, the entry of non-genuine students, would undermine Australia's reputation as a provider of high quality education. At the same time the economic and social benefits of international education, nationally and to individual institutions, need to be balanced against preserving the integrity of Australia's migration programme. (DEST, 2002, p.64.)

The federal government, in short, wants Australian universities to continue to find revenue to fund the shortfall, whilst maintaining educational standards.

ENGLISH LANGUAGE PROFICIENCY REQUIREMENTS FOR AUSTRALIAN UNIVERSITIES

Non-English Speaking Background (NESB) international students² who wish to undertake tertiary study in Australia must meet both academic and English Language Proficiency (ELP) entry requirements. The International English Language Testing System (IELTS) score achieved by the NESB student is the most commonly accepted measure of ELP at Australian universities. In general, prospective students are accepted if they have achieved a score of more than 5.5 – 6.0 on a scale that ranges from 0.0 – 9.0 (see Appendices A and B).

Recently, however, there has been some debate over the validity of ELP as a predictor of the future academic performance of NESB students. Despite the fact that low ELP is often cited by academic staff as the basis of poor performance in NESB students (Victorian Auditor-General, 2002), findings on the relationship between ELP and subsequent academic performance have been mixed. Some studies have shown that NESB students attempting tertiary studies in Australia have a low chance of success if they enter university with the minimum ELP level (Feast, 2002; Elder, Erlan & von Randow, 2002), and that students' level of exposure to English is a significant predictor of their academic performance (Huong, 2001). Other studies, however, have suggested that formal ELP measures are relatively weak predictors when other factors such as previous occupation or course are taken into account (Gunn-Lewis & Awhina, 2000).

Thus, while ELP is often treated as the most significant cause of poor progress among NESB students, it is possible that low academic performance is symptomatic of other learning-related factors. For example, Chi Keung Kam (2000) reported that the anxiety of NESB students adapting to an unfamiliar social and academic environment can negatively affect their motivation to use English in learning contexts. Gunn-Lewis and Awhina (2000) also reported that motivation, academic background, and previous occupation in English were stronger predictors of performance

than formal ELP measures. Motivation, aptitude, and determination to succeed may also compensate for low ELP in some situations (Elder, Erlan & von Randow, 2002). These findings suggest that ELP is not an isolated causal factor in the academic success or failure of NESB students, although it may act in combination with a range of other factors. Exploring the complex interplay between ELP and other factors is the primary focus of the proposed study.

ADDITIONAL PREDICTORS OF ACADEMIC PERFORMANCE IN AUSTRALIAN UNIVERSITIES

The results summarized above suggest that while ELP is a significant predictor of academic performance, it does not operate in isolation. By implication, any attempts to ‘treat’ ELP as the sole underlying cause of academic performance problems will be overly simplistic and unlikely to meet with success. Thus, the key question that must be addressed is, what are some of the problems that NESB students face in Australian universities?

Various factors may come into play regarding underachievement, for example, an unfamiliar education system, the demands of cultural adjustment, the availability of support services, and the culture of learning in the student’s home country versus that of Australia (Ladyshevsky, 1996; Burrell & Kim, 1998; Ingleton & Cadman, 2000). Students without prior experience of, or preparation for, the Australian tertiary education system may face a form of ‘culture shock’ (Levy, Osborn, and Plunkett, 2003), defined as:

A condition of tension created in the mind of an individual who is continuously exposed to a range of unfamiliar situations, namely a foreign culture. The shock is caused by the lack of a familiar cultural environment. The person encounters totally different stimuli, such as different smells, sights, personal relationships, methods of transportation, eating and purchasing (p.3).

Levy et al. (2003) assert that, while specific difficulties in use of the language is likely to play a role in the problems faced by NESB students, the issue of culture shock may be more pressing. In order to draw specific implications for practice, however, it is necessary to identify the specific ways in which such ‘culture shock’ manifests in the learning context. Zuvich (1999) argued that, to make an effective transition to the Australian tertiary system, NESB students need a clear understanding of cultural expectations, knowledge and strategies to fulfil those expectations, an environment in which these strategies can be modelled and practiced, as well as confidence and time management skills. The above recommendations concur broadly with factors identified to predict successful learning in general. These include (i) high levels of task-related confidence or self-efficacy (Bandura, 1993, 2001), (ii) low levels of learning-related anxiety (Horwitz, 1986), (iii) adaptive beliefs about the nature of learning and knowledge (Schommer, 1990), and (iv) use of appropriate learning strategies (Entwistle, 1990; Pintrich & De Groot, 1990).

Self-Efficacy

Self-efficacy, used synonymously with self-confidence in the educational psychology literature (e.g. Pajares & Johnson, 1996), is the belief in one's capabilities to organise and execute the courses of action required to manage prospective situations (Bandura, 1993). A person's belief in their capabilities is likely to have a significant impact on their feelings, thoughts, motivation, and behaviour in approaching a relevant academic task (Bandura, 1994; Boyer & Sedlacek, 1987; Pintrich & Schunk, 1996).

Culture shock, as stated earlier (Levy et al., 2003), may be a significant stressor for NESB students and, combined with insufficient ELP and unfamiliar academic demands and expectations, these students may react either with resilience (positive self-efficacy) or with debilitating stress (negative self-efficacy) (Bandura, 1994; see also Appendix C).

Bandura (1994) identifies four sources of self-efficacy: mastery experience, vicarious experience, social persuasion and the somatic/emotional state. Mastery experience is the student's prior experience of success or failure in academic study. Current academic performance can be affected by past experiences, although past successes are not always a guarantee when studying in a foreign environment (Ingleton & Cadmon, 2000).

Vicarious experience refers to observing how others (e.g., peers) with whom one identifies react to success or failure. Their reactions act as a positive or negative model for the observer's own self-efficacy.

Social persuasion is the extent to which a person is verbally reinforced in their ability to succeed (e.g., by lecturers). Negative and/or culturally insensitive feedback may exacerbate a NESB student's tendency toward negative self-efficacy (Bandura, 1994; Dawson & Conti-Bekkers, 2002).

The somatic/emotional state is the factor which highlights the effects of stress. Although stressful situations met with a positive self-efficacy can be energising, negative self-efficacy can be debilitating, especially if the student's perception of a stressful situation is out of proportion to the actual circumstances. Such negative self-efficacy can result in discordant cognitive processes, in which thought becomes erratic and dysfunctional, and task motivation drops. In the longer term, these processes can even impact negatively on the student's physical health (Bandura, 1994). Therefore, the effect of cultural, academic, and personal factors on the success or failure of an NESB student cannot be underestimated.

Learning Anxiety

Low performance resulting from a negative view of self can be further exacerbated by academic anxiety (Bandura, 1986, 1993). Several studies have suggested that in a second language learning environment, both high levels of student self-confidence and low levels of anxiety are

related to academic performance (Clement, 1980, 1986; Gardner, Tremblay and Masgoret, 1997; Woodrow & Chapman, 2002). Horwitz, Horwitz and Cope (1986) posed that anxiety related to learning in a foreign language can be classified into three primary components: communication apprehension, fear of negative evaluation, and test anxiety. Horwitz et al. define anxiety as “the subjective feeling of tension, apprehension, nervousness and worry associated with the arousal of the autonomic nervous system”² (p.125). Horwitz noted that learning in a foreign language environment can provoke a range of anxiety reactions including apprehension, worry, dread, difficulty concentrating, becoming forgetful, sweating palpitations, and avoidance behaviour (e.g., absenteeism, procrastination).

Horwitz et al.’s (1986) study also identified the specific mechanisms by which Foreign Language Anxiety (FLA) can affect the communicative competence of a learner. With oral work, difficult or personal messages may be avoided. Learners have reported that drill & practice cause no problems, but that they ‘freeze’ in role play or free response situations. Anxiety when writing can lead to shorter compositional work with minimum qualification and clarification. FLA during a listening task may cause the learner to have difficulty discriminating the sounds and structures of the target language message, and have difficulty grasping its context (Horwitz et al., 1986; Ganschow, Sparks, Anerson, Javorsky, Skinner, & Patton, 1994). Further research (Yoshiko, Horwitz, & Garza, 1999) has also indicated that reading tasks can provoke FLA, although it can vary according to the language being studied (Spanish, Russian and Japanese). Text characteristics which may elicit anxiety are unfamiliar scripts and writing systems, and unfamiliar cultural material.

Learning Strategies

There is substantial evidence that language learning strategy use is related to language learning performance, with more proficient language users using successful strategies more frequently (Chamot & Kupper, 1989; Oxford & Burry-Stock, 1995; Park, 1997). Learning strategies may be defined as knowing how to accomplish an activity in an effective manner (Pintrich & DeGroot, 1990, Entwistle, 2000).

Entwistle (1990) presented a model of adaptive learning and effective strategy use within higher education, which formed the basis for the development of the *Approaches and Study Skills Inventory for Students* (ASSIST). The model presents adaptive learning as dependent on three major factors:

² The *autonomic nervous system* regulates the organs of the body, functioning in an involuntary, reflexive manner.

- (i) students' perspectives on the learning process (i.e., what students see learning as being about),
- (ii) students' approaches to studying (e.g., deep, surface and strategic approaches, as well as reproducing, meaning and achievement orientations), and
- (iii) students' preferences for different types of course organization and teaching (e.g., preferred formats for course materials and assessments).

In the ASSIST instrument, there is a clear emphasis on exploring area (ii) above. Entwistle (2000) identifies three broad study approaches: deep, surface, and strategic (see Appendix D). A deep approach may be described as learning to achieve understanding as a means unto itself; a surface approach as minimal effort or achievement; and a strategic approach where a student focusses on how best to achieve success. The implication is that a deep approach is preferable to attain real understanding of a subject, but given the time and assessment constraints of formal tertiary study, a strategic approach is valid and pragmatic.

Epistemology: Beliefs About Knowledge and Learning

Epistemology is defined as being “concerned with the theory of knowledge” (Flew, 1984, p.109). In the field of educational psychology, research on epistemological beliefs has focussed primarily on learners' “beliefs about the certainty, source, justification, the acquisition, and the structure of knowledge” (Duell & Schommer-Aikins, 2001, p. 419). For the learner, knowledge is dynamic and can be developed and refined by experience, whilst beliefs are more static, are shaped by significant experience, and can remain unchallenged by empirical evaluation (Southerland, Sinatra, & Matthews, 2001).

An instrument has been developed which classifies knowledge beliefs into four factors (Schommer, 1990). These factors reflect differences in the extent to which students subscribed to notions of innate ability (e.g., that experts must have special gifts), simple knowledge (e.g., in singular, clear meanings), quick learning (e.g., that learning occurs quickly or not at all), and certain knowledge (e.g., that absolute truths exist). From a conceptual perspective, Dweck and Leggett's (1988) implicit theories of intelligence overlap significantly with Schommer's notion of epistemological or knowledge beliefs (e.g., beliefs in the notion of fixed or innate ability).

Belief factors have been found to be significantly associated with performance (Tsai, 1998; Youn, Yang & Choi, 2001). For example, the belief that intelligence is a fixed entity has been found to correlate significantly with learner helplessness and anxiety (Dweck & Leggett, 1988), while a belief in quick learning is associated with learners forming oversimplified conclusions (Schommer, 1990; Schommer, Crouse & Rhodes, 1992). Beliefs in certain knowledge have also been found to

correlate with inappropriate absolute conclusions (Schommer, 1990; Duell & Schommer-Aikins, 2001). All of these factors can, in turn, contribute to poorer performance.

A NESB student may hold beliefs that are at significant odds with the knowledge required to gain mastery of a specific discipline at an Australian university. Biggs (1996), for example, found that Asian (Chinese Confucian-heritage) students attributed success or failure to their degree of effort, where learning is characterised as a feat of memory, whilst Western students attributed these to their degree of ability to understand new concepts. It is possible, therefore, that learning-belief systems are a contributing factor in the relatively poor performance of some NESB students in Australian universities.

STUDY AIMS AND RATIONALE

Although much effort has been invested in identifying the sources of the problems faced by NESB international students in their tertiary studies at Australian universities, a significant number of NESB international students are still not coping with the requirements of their academic studies. Solutions put in place by universities have typically assumed that ELP (that is, mastery of the mechanics of English – grammar, syntax, vocabulary, and the structure of academic prose) was the problem. This assumption implies, to some extent, that the culture of academic endeavour is universal. As argued by Levy et al. (2003), however, the expectations of Australian academia are clearly grounded in Western constructs, which may often be at odds with the prior educational experiences of NESB international students.

Given the important financial contribution that international students make to Australian universities, these universities have an obligation to provide such students with effective academic support (Burrell & Kim, 1998; Loveday, 1997). In order to do this effectively, we need to identify the factors that place a student ‘at risk’ of failure in the Australian university context, and determine the relative importance of these factors in predicting academic outcomes. Thus, the overarching aim of this study is to identify factors that, singularly or in combination, predict the academic performance of NESB international students within Australian higher education settings.

PROFESSIONAL ORIENTATION

The present author originally entered the Ed.D. programme at UWA because of his concerns over the issue of English language proficiency (ELP) and its relationship to subsequent performance

in Australian university settings. The author's own experience in applied linguistics research, and as a full-time university lecturer of NESB students, led to a concern with the quality of NESB students' work in essay writing, note taking, class participation, and examinations. The results of this study will ultimately be used to develop a screening protocol to identify and provide early support to students who are 'at risk' of failure in their first year of study in Australia. All Australian tertiary institutions face similar issues regarding problem of low academic performance among NESBIS. The proposed study will be of significant value, therefore, in addressing this issue both in Australia, and potentially in any English-speaking country that recruits NESBIS.

STUDY OVERVIEW AND RESEARCH QUESTIONS

The study will be conducted in two major phases. In Phase I, archival data kept by a private college in Western Australia will be examined. This archive provides data on NESB international student performance in this institution from 1997 to 2004. The database includes (i) the marks obtained by students in their first year at the institution, (ii) students' ELP levels at entry, generally based either on scores obtained on the International English Language Testing System (IELTS) or the Test Of English as a Foreign Language (TOEFL)³, and (iii) demographic variables such as the students' gender, ages, countries of origin, and highest levels of education previously attempted. The general research question addressed in this phase will be, to what extent do formalised ELP scores act as predictors of academic performance in students' first year of study in an Australian education system? Subquestions addressed under this first general question will include:

- 1a) How strong is the relationship between ELP levels at entry and marks earned during international students' first year of study?
- 1b) Is there an interaction between ELP and demographic factors such as gender, age, and highest level of education previously attempted?
- 1c) Is the relationship between ELP entry levels and performance moderated by students' country of origin? If the relationship between ELP and performance is found to be weaker for students from particular countries, this may suggest the influence of cultural factors on performance, over and above that already accounted for by ELP levels per se. If, for example, the relationship between ELP and performance was stronger for Hong Kong than for Singapore students, this could suggest that factors other than ELP may be more important in the induction of students in the latter group.

³ At the time of writing, and due to the wide variety of 'acceptable' measures of English language performance, the affect of other measures may be analysed, if considered statistically appropriate.

In Phase II, all students who enrol in the researcher's subject area (Information and Communications Technology) as well as other areas will be asked to complete a number of survey instruments prior to commencing their instruction (cohort intake July, 2005). The scores from these surveys will then be correlated with the marks these students achieve in this and other subject areas. The primary question addressed in this phase will be, to what extent do 'affective' factors such as those identified above mediate and/or moderate the relationship between ELP entry levels and academic performance in students' first year of study? Specific subquestions addressed will include:

- 2a) To what extent do learning beliefs, confidence, anxiety, and learning strategies predict international students' performance in their first year of study?
- 2b) What are the interrelationships between these factors and ELP levels in predicting academic performance? For example, is part of the relationship between ELP levels and subsequent performance mediated by the relationship between ELP at entry and students' confidence and anxiety levels? Is there an interaction effect between these variables? Further, amongst students who enter with low ELP, are some more likely to succeed because their learning beliefs and strategies are consistent with the expectations of their host institution?
- 2c) It is possible to identify clusters of students who are more or less likely to be successful in their first year of study on the basis of the variables measured? For example, do students who are 'at risk' of failure tend to exhibit particular profiles in terms of ELP, learning beliefs, learning strategies, confidence, and anxiety levels? On this basis, it may be possible to develop a screening protocol that can be used to identify and provide early support for students who are likely to fail in Year One.

METHOD

PHASE I: ANALYSIS OF ARCHIVAL DATA

In Phase I, archival data kept by a private tertiary education college specialising in business, information and mass communications courses in Western Australia will be examined to address research questions 1a-1c. This college offers courses both to local and to international students, who enrol in courses within one of the areas listed above (business, information technology, and mass communications). These disciplines generally share a set of core units, which the students combine with a choice of discipline-specific electives.

Sample

The data for Phase I will comprise the electronic and hard-copy student records kept by the college, providing a total population of approximately 600-800 students per annum across 6300 student records. These records are generally available to the researcher in his role as lecturer, but consent has been given by the college for access to data for these purposes.

Instruments

At present, student data selected for the purpose of analysis are divided into four broad areas: personal profile; previous education; study stream and course units; university offer status. In turn, these four areas contain data fields deemed most pertinent to the present study (see Appendix E for a description of the data fields available).

Using available data, it will be possible to analyse the relationship between variables identifying whether a student is local or international, and whether the student is studying at pre-university or first year undergraduate level. Moreover, age, nationality and gender can be examined as predictors and controlled for in examining other factors such as the student's previous education (especially their level of ELP) and their first language proficiency. Data are also available on whether a student was offered a conditional enrolment that entailed further ELP instruction. Finally, data are available on the final scores and grades achieved for course units completed.

Data Analysis and Management Procedures

All data will firstly be extracted into Excel spreadsheet files. This will allow for re-tabulation and recoding, if necessary, prior to analysis. The data will then be imported into SPSS for analysis.

A canonical correlation analysis will be performed on the data to address research questions 1a and 1b. Canonical correlation analysis (CCA) is a procedure that allows researchers to explore relationships between two or more variable sets. As noted by Thompson (1991), with the exception of models that directly take measurement error into account, CCA is the most general case of the parametric general linear model, and as such, subsumes all other multivariate and parametric tests (e.g., multiple regression, multivariate analysis of variance, discriminant analysis) as special cases. Despite the problems associated with using more restricted analysis models, CCA has not found widespread application due to its perceived complexity and unfamiliarity relative to other analysis techniques. The comprehensiveness and flexibility of this method, however, make it well suited to exploring complex profiles of students who may be at risk in their first year of study.

In the analysis, both the ELP levels and the demographic variables (e.g., age, gender, level of education previously attempted) will be entered as predictors, with students' marks in different

subject areas entered as outcome variables. This analysis will address research question 1a and 1b by indicating (i) the strength of the relationship between ELP and academic outcomes, and (ii) the combinations of demographic variables and ELP levels that best predict student marks. To address research question 1c, separate canonical models will be used for students from different countries of origin (e.g., Hong Kong, Singapore) to examine whether the relationship between these variables differs as a function of cultural factors. If the relationships are found to differ for students across different countries, this would suggest that cultural factors act as moderators of the relationship between ELP and student performance.

Data Quality Assurance and Ethics

All source data used in Phase I is entered according to the official procedures of the college. These are in place to ensure the accuracy and validity of student data. This is obviously crucial to the running of the college. All data will be stored on a password protected file server on the college network. Access is therefore possible only by the present researcher.

PHASE II: MODERATING FACTORS IN THE RELATIONSHIP BETWEEN ELP AND PERFORMANCE

In Phase II, students who enrol in the researcher's subject area and in other areas (in which colleagues agree to participate) at a private college in Western Australia will be asked to complete four survey instruments within the first three weeks of commencing their studies. The scores from these surveys will then be correlated with the marks these students achieve in this and other subject areas to examine the interrelationships between ELP and 'affective' factors such as students' self-efficacy, anxiety, learning beliefs, and learning strategies, and to examine how these together predict students' performance in their first year of study.

Sample

All students currently taught by the present researcher (approximately 200) and those in other classes who enrol to commence their studies at the college in July, 2005, will be invited to participate in this phase. Broadly speaking, student nationalities range across countries from Europe, Africa, the Middle East, the Indian sub-continent, South-East Asia, and China. These students will be studying at either the pre-university or first-year undergraduate level across three streams – business, information technology, and mass communications – from a choice of approximately 45-50 course units. The majority of students will be within the 17-25 age range.

Instruments

It is proposed that data will be collected using the following instruments:

Self-Efficacy. This will be assessed using a modified version of the *Self-Efficacy Scale*, which has demonstrated good psychometric properties in terms of both reliability and validity (Bandura, 2001). This scale will be used to determine the extent to which a student self-belief in their academic abilities is positive or negative. Test items elicit responses identified by Bandura (1994) as sources of self-efficacy: mastery experience (prior experiences of success); vicarious experience (observance of success in others); social persuasion (verbal reinforcement from others in one's ability to succeed); somatic/emotional state (perceptions of stressful experiences).

Anxiety. This will be assessed using the *Foreign Language Classroom Anxiety Scale* (FCLAS), which has been shown to have good internal consistency and construct validity (Horwitz, 1986). This scale will be used to determine the levels of anxiety, specifically with measures of communication apprehension, negative evaluation, and test anxiety.

Beliefs About Knowledge and Learning. A modified version of the Schommer (1990) scale will be used. Evidence on the psychometric properties of this scale is relatively scarce. Despite this, it is the only one of its kind in the field, and it is very widely used. In this scale, knowledge beliefs are classified in terms of four factors. These factors reflect differences in the extent to which students subscribe to notions of innate ability (e.g., that experts must have special gifts), simple knowledge (e.g., in singular, clear meanings), quick learning (e.g., that learning occurs quickly or not at all), and certain knowledge (e.g., that absolute truths exist).

Learning Styles and Strategies. These will be assessed using the *Approaches to Study Skills Inventory for Students (ASSIST)*, a well-established and extensively validated instrument developed by Noel Entwistle at the University of Edinburgh. Test items are divided into three sections:

- a) What is learning? This six-item subscale is designed to test what students see learning as being about, for example, 'making sure you remember things well' or 'seeing things in a different and more meaningful way'.
- b) Approaches to studying: These 52 items cover deep, surface and strategic approaches, and reproducing, meaning and achievement orientations. Students have to agree or disagree with statements such as 'I go over the work I've done carefully to check the reasoning and that it makes sense' and 'Often I find myself questioning things I hear in lectures and read in books'.

- c) Preferences for different types of course organization and teaching: These eight items ask students to say how much they like, for example, ‘exams which allow me to show that I’ve thought about the course for myself.’

Procedures

The aim will be to deliver the instruments to as many of the total student body as possible during the course of one semester, both within the classes taught by the present researcher and from classes across disciplines taught by other lecturers. The aim is to get as broad a spread as possible across and within the Business, Information Technology and Mass Communication streams, and at both pre-university (Certificate IV) and first-year undergraduate (Diploma) level..

The present researcher is responsible for three units of study: Two pre-university and one undergraduate in the areas of information technology and information systems. Classes run for four hours at a time – two hours lecture and two hours computer laboratory work. During laboratory time, students typically work at their own pace on set work. Therefore, test instruments will be delivered during laboratory time to minimise disruption and to facilitate distribution of the instruments in a controlled environment. Each instrument will be administered over the course of one week to each of the classes (although it may be possible to combine instruments should time allow.)

The intention is to negotiate with colleagues to find suitable times to administer the instruments in order to minimise disruption to the normal running of classes. Ideally, all instruments will be delivered over the same time period, but this may not be possible. It is conceded that some lecturers may decline to administer an instrument for logistical and personal reasons. However, every attempt will be made to administer the instruments as widely as possible.

Data Analysis and Management

To address questions 2a and 2b, a path analysis will be performed. Path analysis is “an extension of the regression model, used to test the fit of the correlation matrix against two or more causal models which are being compared by the researcher” (Garson, 2005). Path analysis may be used to decompose correlations in the model into direct and indirect effects, corresponding to direct and indirect relationships between the predictor and the outcome variables. Given the study aim, in this case, a three-panel model will be examined to address research questions 2a and 2b. In this model, ELP will be entered in Panel I, along with a number of interaction variables (ELP*Learning Strategies and ELP*Learning Beliefs). The ‘affective’ predictors will be entered in Panel II, followed by students’ marks in Panel III. A preliminary conceptual model for this analysis is shown in Figure 1.

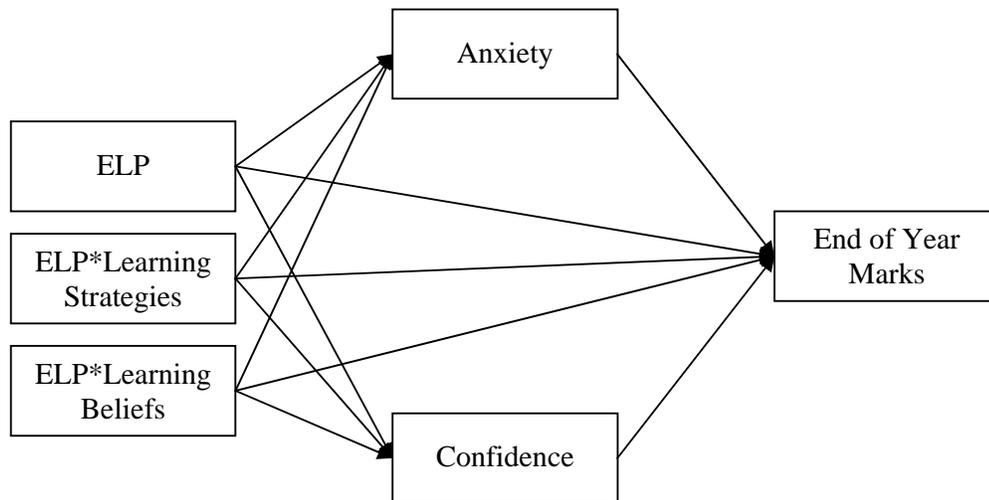


Figure 1. Conceptual diagram of relationships tested in Phase II

As indicated, this model will examine (i) whether ELP is a significant predictor of student marks, (ii) whether students' marks are related more strongly to some interaction between students' learning strategies and their entry level ELP, and (iii) the extent to which the relationship between ELP and marks is mediated by students' confidence and anxiety levels (indirect effects of ELP on performance). If there are significant indirect effects in the model, this would suggest that part of the effect of ELP on marks is due to the impact of ELP first confidence and anxiety levels. If this is the case, the outcomes will provide clear directions for intervention to improve outcomes for students with low ELP entry levels (e.g., use strategies to decrease students' anxiety in using English within class). Similarly, if students' marks are more strongly related to some interaction between ELP and learning strategies or beliefs, this would suggest that the effects of low ELP can be counteracted to some extent by encouraging students to modify their underlying assumptions about learning or to change the strategies they use to complete tasks. This could provide a sound basis for an induction program for international students entering the college in future.

To address research question 2c, a cluster analysis will be performed. This is a statistical technique that identifies groups of participants whose characteristics are highly correlated within each cluster grouping and relatively uncorrelated between clusters. All variables available will be entered (apart from students' marks) to determine whether there appear to be identifiable groups of students with particular characteristics (e.g., preference for deep versus surface learning strategies along with low anxiety and high confidence levels). A multivariate analysis of variance (MANOVA) will then be performed to determine whether the groups identified by this procedure differ

significantly in terms of performance. This will help to identify whether there are particular combinations of factors that contribute to students' success or failure in their first year of study.

Data Quality and Ethical considerations

No individual data will be made public as part of the final study. Students will be identified only by their Student ID, and this will be retained only for the purposes of linking multiple records pertaining to a given student. All procedures used will adhere to the current data collection and handling policy of the college under study and the Data Privacy Act. No procedures used will exceed the authority of the present researcher to use the personal data of students for the regular purposes of academic administration.

SIGNIFICANCE

Given the financial contribution made by international students to the tertiary sector, the general education sector, and the economy in Australia, research is necessary into the factors that affect the academic performance of NESB students, especially into those factors that may predict students at risk of failure. The findings of the proposed study will lead to better informed classroom and academic support practices to enhance the academic experience of such students, by providing more students with better opportunities to succeed to the standard required at an Australian university. Such consideration for the academic welfare of NESB students may also help to further promote Australia as a provider of quality educational services.

POTENTIAL LIMITATIONS

The proposed study will be undertaken within a private tertiary college with a student population predominantly from overseas (approximately 85%). The study will be conducted within this single college, so there are issues of generalizability with the eventual findings. Nonetheless, most of these students are studying in courses accredited by universities and at first-year university level, and are taught by lecturers who teach the same subject within a university as well as at the college. Therefore, the experiences of the students at the college are likely to be similar to those associated with studying at a mainstream university.

Standardised questionnaires will be used in Phase II. It is conceded here that interviews may provide a deeper insight into factors that may affect academic performance. However, in order to sample a large proportion of the student body, and to use statistical tests of relationships between

the target constructs, questionnaires were a logical choice. These findings will, furthermore, provide valuable information for any future research that may use a more in-depth interview approach.

PROPOSED TIMELINE

Component	Specific Tasks	Time Period
Phase I	Analyse archival data and produce relevant thesis chapter	March 2005 – May 2005
Phase II	Establish logistics for administering surveys at the beginning of Semester II	June 2005
	Administer instruments; write bulk of method and literature review	July 2005 – October 2005
	Analyse and write up data from Phase II	November 2005 – January 2006
Thesis Preparation	Complete first full draft of thesis	February 2006 – April 2006
Submission	Finalize edits based on supervisors' comments and submit	June 2006 – July 2006

ESTIMATED COSTS

All of the instruments to be used in the study are available without cost if used for research purposes only. As the college in which the study will be done has an interest in the findings of the research, however, the college has agreed to cover all incidental expenses associated with obtaining the instruments required and making sufficient copies for distribution.

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APPENDIX A

International English Language Testing System(IELTS Handbook, January 2003)

IELTS Bands	
Band 9 – Expert User	Has fully operational command of the language; appropriate, accurate and fluent with complete understanding.
Band 8 – Very Good User	Has fully operational command of the language with only occasional unsystematic inaccuracies, inappropriacies and misunderstandings in some situations. Handles complex detailed argumentation well.
Band 7 – Good User	Has operational command of the language, though with occasional inaccuracies, inappropriacies with and misunderstandings in some situations. Generally handles complex language well and understands detailed reasoning.
Band 6 – Competent User	Has generally effective command of the language despite some inaccuracies, inappropriacies and misunderstandings. Can use and understand fairly complex language, particularly in familiar situations.
Band 5 – Modest User	Has partial command of the language, coping with overall meaning in most situations, though is likely to make many mistakes. Should be able to handle basic communication in own field.
Band 4 – Limited User	Basic competence is limited to familiar situations. Has frequent problems in understanding and expression. Is not able to use complex language.
Band 3 – Extremely Limited User	Conveys and understands only general meaning in very familiar situations. Frequent breakdowns in communication occur.
Band 2 – Intermittent User	No real communication is possible except for the most basic information using isolated words or short formulae in familiar situations and to meet immediate needs. Has great difficulty in understanding spoken and written English.
Band 1 – Non User	Essentially has no ability to use the language beyond possibly a few isolated words.
Band 0 – Did not attempt the test	No assessable information provided.

APPENDIX B

International English Language Testing System (IELTS Handbook, January 2003)

Comparison of Linguistic Demands of Academic and Training Courses				
Band	Academic Courses		Training Courses	
9.0 – 7.5	Linguistically demanding e.g. Medicine, Law, Linguistics, Journalism, Library Studies	Linguistically less demanding e.g. Agriculture, Pure Mathematics, Technology, Computer-based work, Telecommunications	Linguistically demanding e.g. Air Traffic Control, Engineering, Pure Applied Sciences, Industrial Safety	Linguistically less demanding e.g. Animal Husbandry, Catering, Fire Services
7.0	Acceptable	Acceptable	Acceptable	Acceptable
6.5	Probably Acceptable	Acceptable	Acceptable	Acceptable
6.0	English Study needed	Probably Acceptable	Acceptable	Acceptable
5.5	English Study needed	English Study needed	Probably Acceptable	Acceptable
5.0	English Study needed	English Study needed	English Study needed	Probably Acceptable

APPENDIX C

Self-Efficacy Sources (from Bandura, 1994)

Positive	Negative
<ul style="list-style-type: none"> • Enhanced accomplishments and personal well-being. • Difficult tasks are challenges to be mastered, not threats to be avoided. • Fosters intrinsic interest and deep interest in activities • Challenging goals are set and a strong commitment to them maintained. • Failure is met with heightened and sustained effort to overcome the setback. • Will recover from setbacks; displays resilience. • Poor performance or failure is seen as the result of insufficient effort and/or knowledge and skills which can still be acquired. • Threats are viewed as controllable <p><i>Positive self-efficacy results in:</i></p> <ul style="list-style-type: none"> • <i>success, personal accomplishment</i> • <i>potential for stress and vulnerability to depression unlikely.</i> 	<ul style="list-style-type: none"> • Difficulties are avoided and seen as personal threats. • Low aspirations. • Weak commitment to chosen goals. • Potential difficulties are met with a focus on personal deficiencies, the obstacles to be overcome and the probable adverse outcomes. • Difficulty is met with slackened effort and soon given up as too hard. • Slow to recover from failure • Poor performance or failure is seen as the result of deficient aptitude. • A minimum level of failure will produce loss of faith in capabilities. <p><i>Negative self-efficacy results in increased likelihood of:</i></p> <ul style="list-style-type: none"> • <i>Failure and lack of effort.</i> • <i>Stress and vulnerability to depression.</i>

APPENDIX D

Defining Features of Approaches to Learning and Studying

Deep approach

Intention: to understand ideas for yourself

- Relating ideas to previous knowledge and experience
- Looking for patterns and underlying principles
- Checking evidence and relating it to conclusions
- Examining logic and argument cautiously and critically.
- Being aware of understanding developing while learning

Surface approach

Intention: to cope with course requirements.

- Treating the course as unrelated bits of knowledge
- Memorising facts and carrying out procedures routinely
- Finding difficulty in making sense of new ideas presented
- Seeing little value or meaning in either courses or tasks set
- Studying without reflecting on purpose or strategy.
- Feeling undue pressure and worry about work

Strategic approach

Intention: to achieve the highest possible grades

- Putting consistent effort into studying
- Managing time and effort effectively
- Finding the right conditions and material for studying
- Monitoring the effectiveness of ways of studying
- Being alert to assessment requirements and criteria
- Gearing work to the perceived preferences of lecturers

APPENDIX E

Data Field Descriptions

Area	Data Fields	Description
Personal Profile	Student ID	Identification purposes (during analysis only)
	Study Programme	Business, IT or mass communications <ul style="list-style-type: none"> • Pre-university (matriculation equivalent) • Diploma (1st year uni. Equivalent)
	Citizenship	Cultural factors indicator
	Gender	Gender significance indicator
	Local or Overseas	Australian resident or international student
	Course completion status	Current, past (graduated) or withdrawn
Previous Education	Highest educational qualification	Highest level of formal education achieved prior to entry
	Highest level of English achieved	Score/Grade achieved in formal, accepted test of English language proficiency
	Highest academic level achieved/attempted	Potential indicator of previous higher education attempted/achieved
	First language proficiency	Score/grade achieved in native language
Course Units (multiple records for each student ID)	Course Period	Year-Trimester enrolled in unit
	Enrolled unit	Unit code
	Final score	All scores scaled from 0 - 100
	Final grade	High Distinction – 80-100 Distinction – 70-79 Credit – 60-69 Pass – 50-59 Fail – <50
University offer status	Enrolment conditions	Indicator of further English language instruction prior to/concurrent with enrolled course of study