The relationship between types of evidence of English language proficiency and academic achievement of non-English speaking background students at an Australian university

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Abstract

Corresponding to the increasing number of international students enrolled in Australian universities over the last decade has been the increasing concern and anecdotal reports indicating that many non-English speaking background (NESB) students experience considerable difficulty in their courses. Consequently, concerns about admission procedures have been raised regarding how English language proficiency (ELP) is determined for NESB students (both domestic and international).

In addition to standardised ELP tests, some universities accept other forms of evidence, such as the completion of English-medium courses. This large-scale quantitative study analysed data on 5,675 undergraduate and postgraduate students available from one university's database over a three year period to ascertain if its ELP requirements were sufficient to ensure the academic progress of adequate numbers of these students. The best evidence for potential academic success was found to be standardised tests (e.g. IELTS). Students submitting other forms of ELP evidence tended to have more difficulties.

Keywords: *admissions requirements; English language proficiency; IELTS; international students; NESB (non-English speaking background) students.*

Introduction

The admission of international and domestic students from non-English speaking backgrounds (NESBs) to universities in English speaking countries is substantial and growing. For example, between 2002 and 2008 the numbers of international students in Australian institutions of higher education increased by 58.2% (Australian Education International, 2009b). In fact, each year over a million international students are enrolled to higher education institutions in the top five destination English speaking countries alone (Australian Education International, 2007). NESB students do not only come from this pool, university enrolment records show that an increasing number of domestic students also have English as an additional language.

The importance of NESB students, be they local or international, to universities in English speaking countries cannot be understated. In addition to the cultural enrichment of academic and local communities, these students assist in enhancing the financial sustainability of these nations' tertiary institutions as well as their local and national economies. For instance, the education of international students was Australia's fourth largest 'export' industry for the 2008-09 financial year, adding approximately A$17.5 billion to Australia's economy (Australian Education International, 2009a). Further, of the 543,898 international students enrolled in Australian educational institutions in 2008, universities accounted for 33.6% of the cohort (182,770 students), the highest number of enrolments of full-fee paying international students of all education sectors. In 2008, the university in the current study had almost 5000 international students or 23.8% of its total enrolment. Unfortunately, there is a growing concern that the limited English language competency among international students, current and graduating, has become an obstacle for their success (Lowe, 2009).

For students who do not speak English as a first language, competency in the English language is crucial for success in tertiary study and so ensuring that prospective students have sufficient English academic language skills to cope with the study requirements of their intended courses is an integral aspect of the recruitment process. As a consequence, along with evidence of sufficient academic qualifications, at Australian universities NESB students must provide proof of adequate English language proficiency (ELP). In addition to accepting test scores from standardised ELP tests such as the International English Language Testing System (IELTS) and the Test of English as a Foreign Language (TOEFL), many Australian universities accept different forms of ELP evidence (Coley, 1999). However, anecdotal reports suggest that many students submitting such alternatives experience considerable difficulty with their courses. This is particularly so for courses requiring high levels of competency in English language academic skills (Dooey & Oliver, 2002). This practice has raised concerns about admission procedures and, in particular, the way in which ELP is ascertained. This study examined the relationship between the ELP evidence accepted for NESB students admitted into one Australian university and their academic success.

Predictive validity studies

Early research into the relationship between ELP assessments and the academic success of NESB students highlighted a number of challenges, including the difficulty of defining and measuring ELP and academic success. It also indicated the contribution of non-linguistic variables to academic performance. Having yielded conflicting results, these predictive validity studies were, therefore, inconclusive. (See Graham, 1987 for a review of this early research.) Nonetheless, the three aspects emerging in this research warrant further discussion.

English language proficiency

Many studies have used IELTS, TOEFL or an institution-based test to measure ELP. Graham (1987) notes, however, that these tests define *proficiency* in different ways. Commercially marketed tests such as IELTS and TOEFL define ELP in relation to test scores, describing the English language performance level of those scores achieved within a particular range. According to the *IELTS Handbook 2007,* for example, an individual who achieves a band score of 9.0 is characterised as an 'expert user' of the English language, i.e., someone having a 'fully operational command of the language: appropriate, accurate and fluent with complete understanding' (IELTS, 2007, p. 5). In contrast, someone attaining a band score of 6.0 is described as a 'competent user' or one who 'has generally effective command of the language despite some inaccuracies, inappropriacies and misunderstandings in some situations'. Further, band score 6 indicates that the student 'can use and understand fairly complex language, particularly in familiar contexts' (IELTS, 2007, p. 5).

With respect to TOEFL, performance levels on its subtests are similarly represented though on a scale of 0 to 6. In the TOEFL paper-based Test of Written English (TWE), for example, those achieving a score of 6 are described as able to write an essay which 'effectively addresses the writing task; is well organised and well developed; uses clearly appropriate details to support a thesis or illustrate ideas; displays consistent facility in the use of language; and demonstrates syntactic variety and appropriate word choice' (ETS, 2009). Thus, while ELP tests use different approaches to define proficiency in general and in particular skill areas, Graham (1987) acknowledges a high correlation across the results obtained from various ELP tests and maintains that comparisons are, therefore, valid.

However, determination of ELP becomes more problematic for universities when proficiency is accredited on the basis of the completion of certain courses, because achieving such does not necessarily equate to reaching a certain level of language proficiency. With respect to the current study, this includes accepting ELP qualifications which are based on full or partial completion of courses offered by private colleges, language institutions, through high schools (namely the Tertiary Entrance Exam (TEE) English as a Second Language (ESL) course offered by schools in Western Australia (WA)), as well as course completion in overseas English-medium institutions.

Defining and determining academic success

When measuring academic success, it is common for predictive validity studies to use student grade point averages (GPAs). Although it has been argued that GPA does not accurately reflect the demands of the subject or the number of units taken (Heil & Aleamoni, 1974, cited by Graham, 1987), Sugimoto (1966, also cited by Graham, 1987) found the first-semester GPA to be the best indicator of international students' potential academic success. Kerstjens and Nery (2000) note, however, that a wider range of measures have been used as predictors in more recent studies, including pass/fail, progression to the next semester, staff perceptions of student performance and student self-ratings.

A recent Australian study (Phakiti, 2008) investigated the degree to which meta-cognitive understanding of academic reading strategies as well as IELTS scores in ELP and English reading proficiency could predict academic achievement (GPA) in postgraduate university courses. Their study found that ELP, English language reading proficiency (both based on IELTS scores) and meta-cognitive knowledge of academic reading strategies could only account for 7%, 10% and 5% (respectively) of their academic achievement. The qualitative components of Phakiti's (2008) study and investigations by others (e.g., Fox, 2004) highlight the importance of non-linguistic factors influencing academic success.

Non-linguistic variables influencing academic performance

In addition to the possible contribution of ELP to scholarly achievement, research has shown that there is a wide spectrum of non-linguistic factors that can impact upon a student's academic progress, including the following individual factors: cultural background, educational background, level of cultural adjustment, country of origin, personal characteristics, attitude, motivation, age, gender, chosen discipline, course level (undergraduate or postgraduate), level of support from social networks, personal financial issues, time available for study, ability to adapt to the (academic) culture, study strategies/practices, and class attendance (and engagement) (Andrade, 2006; Fox, 2004; Phakiti, 2008).

In the specific context of Australian institutions, Burns (1991, cited by Cotton & Conrow, 1998) observed that in addition to financial constraints, pre-course preparation and family pressure about academic performance can also impact upon on a student's academic progress. In relation to specific courses of study, Woodrow (2006) notes that the professional experience of postgraduate Education students can enable them to apply their knowledge about learning strategies for their own studies. Finally, the extent of the time period between the ELP test and when academic performance is evaluated can also be influential (Davies & Criper, 1998, cited in Kerstjens & Nery, 2000). The ability to control these non-linguistic

factors is limited; caution is therefore warranted when comparisons are made between specific studies and when attempts are made to generalise findings to wider populations.

Using ELP scores to determine university entry

Despite the multiple issues associated with the predictive validity of ELP tests, there appears to be a general consensus that ELP test scores are useful in predicting academic success. However, considerable variability exists across universities and faculties within the same university in relation to setting minimum entry scores. Researchers have recommended that individual universities and their faculties conduct their own research to establish the *optimum* minimum requirements for the courses they offer (Dooey, 1998; Dooey & Oliver, 2002; Graham, 1987).

Setting minimum requirements must take into consideration the current global, national and local economic climate as well as the educational objectives of the institution and its faculties in order to enrol a sufficient number of students to ensure sustainability. However, as Dooey (1998) and Dooey and Oliver (2002) caution, this must be carefully balanced against the provision and type of support made available for those with low levels of ELP.

Indeed, a statistical study measuring the effects of raising and lowering the minimum IELTS requirements with respect to student GPAs and student numbers demonstrates that increasing the minimum score raises the GPA, but lowers the number of students eligible for entry (Feast, 2002). Thus, to maintain itself as a sustainable entity, a university must set minimum requirements that are sufficiently high so as to exclude candidates who are unprepared to meet the academic challenges of their course. Alternatively, it can lower the minimum entry scores to allow for the admission of students with lower levels of ELP, but provide adequate support systems to enable them to succeed while still ensuring that the university's standards are not compromised. Once more this highlights the difficult balance that must be achieved in the recruitment and vetting of students in order to increase the chances that students admitted to university have the ability to achieve academic success. Further, the findings based on anecdotal evidence from staff interviewed as part of another project (Rochecouste & Oliver, 2009) suggest there is a perception that this balance is not currently being achieved (i.e., having entry standards at a level that maximises recruitment and academic success of those students admitted). Nonetheless, despite the multiple issues associated with predictive validity of ELP tests, some recent studies have found slight to moderate correlations between the IELTS reading sub-test score and academic performance (Bayliss & Raymond, 2004; Dooey & Oliver, 2002). Additionally, a relationship has been found between academic performance and the writing sub-test score, though to a lesser degree (Cotton & Conrow, 1998; Kerstjens & Nery, 2000), and between writing, speaking and listening sub-tests and GPA (Woodrow, 2006). While it cannot be said that this evidence is conclusive, this research suggests a relationship between ELP test scores and academic performance. The current study examined whether these findings could be extended to NESB students in the context of one university with respect to its minimum ELP test score requirements.

English language entry requirements

As is the case with many Australian universities (Bretig, 2007; Coley, 1999), the university in the present study provides a variety of acceptable forms of evidence of ELP that

undergraduate and postgraduate students can submit. The main types of ELP evidence are summarised for undergraduate and postgraduate applicants in Table 1.

Table 1. English language entry requirements

ELP Evidence	Requirements (*minimum* score/grade)
Undergraduate	
IELTS	Overall band score: 6; All individual band scores: 6
TOEFL	TOEFL paper-based: 550; TWE: 5
	TOEFL computer-based: 213; essay: 5
TOEFL Internet-based test	80; individual scores: 20
TEE	English or English Literature: Pass
WA Universities Foundation Program (WAUFP)	50% ; pass in English Language and Australian Cultural Studies
GCE O Levels	Grade C
International Baccalaureate Diploma	Grade 3 at higher level for an English subject
Postgraduate	
IELTS	6.5 (overall); all individual band scores: 6
TOEFL	TOEFL paper-based: 573; TWE: 5
	TOEFL computer-based: 232; essay: 5
TOEFL Internet-based test	88; individual test scores: 22

As Table 1 illustrates, the university accepts standardised ELP tests such as IELTS, TOEFL as well as passes in the English or English Literature component of the WA TEE. It also accepts satisfactory scores received from state and overseas programs for entrance into undergraduate programs. As noted earlier, particular faculties and schools set higher minimum requirements. For example, all postgraduate programs in Psychology require an IELTS band scores of 7.0 or TOEFL (paper-based) score of 627.

In addition to the standardised tests outlined above, other types of ELP evidence were accepted by the university as being sufficient for admission. Although these were neither tests nor actual measures of ELP per se, they were labelled as such in the database (i.e., 'test type') and therefore this term is repeated here. Table 2 below displays the standardised tests and the other ELP measures accepted by the university along with the percentage and number of NESB students who used these means to gain university entry. It is important to note that

although undergraduate and postgraduate students are grouped together in this table, they are subject to quite different ELP requirements.

Table 2. Types of ELP evidence for all NESB students

Test type	2006	2007	2008	Total
No test type recorded (blank)	14.45% (820)	12.9% (732)	17.46% (991)	44.81% (2543)
10 weeks of academic English with no further IELTS testing	0% (0)	0.07% (4)	0.04% (2)	0.11% (6)
4 weeks of academic English with no further IELTS testing	0% (0)	0% (0)	0.09% (5)	0.09% (5)
Private Provider 1	0.02% (1)	0% (0)	0% (0)	0.02% (1)
Cambridge Certificate in Advanced English	0% (0)	0.02% (1)	0% (0)	0.02% (1)
Direct entry program[1]	0% (0)	0.49% (28)	0.85% (48)	1.34% (76)
University's own English proficiency test	0.09% (5)	0.21% (12)	0.37% (21)	0.67% (38)
English as a second language (TEE)	0.09% (5)	0.05% (3)	0.25% (14)	0.39% (22)
English was medium of instruction for previous award	1.23% (70)	3.72% (211)	7.98% (453)	12.93% (734)
GCE A-level	0.07% (4)	0.02% (1)	0.09% (5)	0.18% (10)
GCE O-level	0.6% (34)	0.65% (37)	0.85% (48)	2.1% (119)
IELTS	1.32% (75)	2.03% (115)	2.87% (163)	6.22% (353)
Indian Higher School Certificate	0% (0)	0% (0)	0.16% (9)	0.16% (9)

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[1] In domestic admissions, *direct entry* refers to a pathway by which the student has applied directly to the university through Tertiary Institutions Service Centre (TISC) because they have met the minimum requirements specified for the course.

Lower IELTS entry	0% (0)	0.05% (3)	0.18% (10)	0.23% (13)
Malaysian SPM - English 1119	0.19% (11)	0.25% (14)	0.44% (25)	0.88% (50)
Private Provider 2	0% (0)	1.22% (69)	1.69% (96)	2.91% (165)
Private Provider 3	0% (0)	0% (0)	0.02% (1)	0.02% (1)
Private Provider 4	0% (0)	0.12% (7)	0.16% (9)	0.28% (16)
Post secondary academic program, using English as the medium	14.56% (826)	7.15% (406)	1.62% (92)	23.33% (1324)
Special Tertiary Admissions Test	0% (0)	0% (0)	0.05% (3)	0.05% (3)
TAFE Certificate IV	0% (0)	0.05% (3)	0.18% (10)	0.23% (13)
TOEFL	0.16% (9)	0.18% (10)	0.19% (11)	0.53% (30)
University Entrance Bridging Course 1 and 2	0% (0)	0.28% (16)	0% (0)	0.28% (16)
University Entrance Bridging Course 2	0.02% (1)	0.86% (49)	0.99% (56)	1.87% (106)
WA Universities Foundation Program (WAUFP)	0% (0)	0.23% (13)	0.14% (8)	0.37% (21)
Total	32.79% (1861)	30.56% (1734)	36.65% (2080)	100% (5675)

Of the 5,675 NESB students entering the university between 2006 and 2008, ELP evidence was recorded for 55.19% (n=3,132) of them. However, for 44.81% (n=2,543), no 'test type' (nor any other alternative evidence of ELP) was recorded. Nonetheless, the most common type of ELP evidence recorded was in the category of *post secondary academic program, using English as the medium* (n=1,324). However, the number of students entering using this evidence decreased between 2006 and 2008. Further, ELP types of evidence such as some private college courses (listed as "private provider" in Tables 2 and 3), TAFE Certificate IV and University Entrance Bridging Course 2 had no cases recorded in 2006, but the number of cases increased during the subsequent two years. Verification of the dates for the establishment and/or removal of the 'test type' categories in the database showed that all categories for which a zero was recorded had occurred in that particular year and thus were not available. In addition, the establishment of the new categories and the reduced numbers in

the *post secondary academic program, using English as the medium* category suggests that this category had been split to capture more detail in record keeping.

With regard to standardised tests used as ELP evidence, only 353 out of 5,675 (6.22%) NESB students were admitted with IELTS test scores, 30 (0.53%) with TOEFL as their test type and the evidence of a further 13 students was categorised as lower IELTS entry. It should be noted that the latter students were admitted to one particular faculty with a score of less than 6.0 on the IELTS examination.

Aim of the study

This study draws on data from a larger study (Oliver & Vanderford, 2009) to examine the sufficiency of the ELP requirements for undergraduate and postgraduate NESB students enrolling at the university over a three-year period (2006 – 2008). It specifically sought to answer the following research question: Are the university's current ELP requirements sufficient to ensure that NESB students make satisfactory academic progress? By answering this question, the overarching aim of this research is to inform the decision-making processes and associated record keeping procedures of this and other universities in English speaking countries which admit NESB students into their undergraduate and postgraduate programs.

Methodology

Participants: Overview of student cohort

Data providing information about international and domestic students admitted to undergraduate and postgraduate courses between 2006 and 2008 were obtained from the university's student management system database. According to this data set in the period 2006-2008 a total of 30,919 students entered the university. Of this total 11.97% (n=3,700) were identified as offshore and were excluded from the analysis. Of the remaining onshore entrants, 20.85% (n=5,675) were identified as NESB students, whereas 57.76% (n=15,722) were identified as English speaking background (ESB) students. Unfortunately, the language background of more than one-fifth (21.39%; n=5,822) of the onshore group was not indicated (i.e.,'N/A' was recorded), so these students were also excluded from the analysis.

Student management system data and analysis

When applying for entry, NESB students at this university can be admitted as either international or domestic students, depending on their background experience, including where their most recent education took place. While many international students apply for admission to the university directly following their studies at institutions in their home countries, others may first attend Australian educational institutions prior to applying for entry into the university's courses. This pathway sometimes enables them to enter with 'domestic' status. This practice is recognised as an acceptable condition to satisfy ELP requirements and therefore a pathway into university courses. This alternative pathway enables these NESB students to bypass having their ELP assessed using standardised tests, which may be problematic for some. It also means that for the purpose of the current research the distinction between international and domestic NESB students may not be completely reliable. However, given this caveat, over the three year period, almost two-thirds of the NESB students (64.2%; n=3,646) were admitted as international students and just under one-third (35.8%; n=2,029) with domestic status. Approximately two-thirds (64.4%; n=3,654) of

the NESB students were admitted into undergraduate programs and about one-third (35.6%; n=2,021) entered postgraduate courses.

To measure students' academic achievement in their courses at the university where the current study was undertaken, Weighted Average Marks (WAMs) were used. Rather than averaging the marks for all units taken by a student, WAM scores are calculated on the basis of the number of credit points for each unit thus producing a relative value for each. Although a WAM score is not the same as a GPA, it can be translated into a band score that can be used by other institutions. Both measures provide an indication of how successful an individual student has been in terms of his or her academic achievement. Like GPAs, WAMs provide a way in which the contribution of such factors as ELP can be compared.

In this study academic success or progress equated to achieving a WAM score of 50% or greater. While defining academic success or progress in these terms may be disputed, it has been done because such scores indicate that students have passed their units, allowing them to complete their award requirements; those unable to achieve a WAM of 50% or more do not pass and are, therefore, unsuccessful in completing their university courses.

Although the data from 2006-2008 indicate that there were 5,675 NESB students, 581 of these had a *zero* recorded for their WAM. Because it was not possible to determine whether the zero was a place marker for the database, a default setting when no data is entered or, indeed, a zero due to language issues, these cases were excluded from analyses involving WAM scores. The total number of NESB students for whom a WAM was recorded in the database was 5,094.

To calculate the distribution of the types of ELP evidence accepted from NESB students, the list of 'test types' (which includes both ELP tests and alternative types of evidence such as course completions) and the numbers of students who had submitted each category of evidence were extracted from the database. The proportion and numbers of students using each 'test type' were calculated for the whole cohort of 5,675 (including those without WAM scores). For those with a WAM, the mean (average) of the scores for students in each category and the standard deviations were computed. Further, the percentage of students whose WAM was below 50% was also calculated.

Next, because IELTS and TOEFL provide numerical band score results (e.g., for IELTS ranging in 0.5 increments from 0 to 9 (IELTS, 2009)), it is possible to explore the relationship between the band scores and academic achievement using correlation analysis. This is not possible for other evidence of ELP where only a categorical distinction is made (i.e., ELP is demonstrated or it is not). It was determined that IELTS test scores were to be examined because there were too few numbers of students in the cohort who had submitted TOEFL and other types of test as evidence of ELP. To investigate the relationship between IELTS scores and subsequent academic progress, and thus to determine their predictive validity, Pearson's Product Moment Correlation Coefficient analyses were carried out. Firstly, the group as a whole was investigated. Next, the undergraduate/postgraduate indicator was used as an independent variable to examine the relationship between ELP test scores and academic progress in these different groups.

Findings

The subsections that follow examine the relationship between ELP evidence and academic achievement. Firstly, the types of ELP evidence accepted by the university and the mean WAM, SD and proportion of students with a WAM below 50% are examined. Then, the relationship between IELTS scores and WAM is considered.

Types of ELP evidence and academic achievement

The range of evidence of ELP, including standardised tests, along with WAM results is displayed for all NESB students in Table 3 below.

Table 3. ELP evidence and overall academic achievement (WAM)

Test Type	WAM	SD	N	N <50	%<50
Private Provider 1	46.83		1	1	100.00%
WA Universities Foundation Program (WAUFP)	41.67	19.78	21	14	66.67%
4 Weeks of Academic English with no further IELTS testing	54.90	12.14	5	2	40.00%
Private Provider 4	57.91	11.19	14	4	28.57%
TAFE Certificate IV	56.91	10.61	11	3	27.27%
Private Provider 2	56.48	13.71	161	36	22.36%
Indian Higher School Certificate	59.63	16.59	9	2	22.22%
GCE A-Level	56.92	18.91	10	2	20.00%
English was medium of instruction for previous award	58.84	14.37	694	135	19.45%
Post secondary academic program using English as the medium	59.03	14.09	1270	236	18.58%
University's English Proficiency Test	59.50	15.29	38	7	18.42%
Malaysian SPM - English 1119	60.75	12.04	49	9	18.37%
No ELP evidence recorded	60.91	15.54	2107	369	17.51%
10 Weeks- academic English - no further IELTS testing	55.39	15.01	6	1	16.67%
GCE O-Level	60.52	11.87	118	17	14.41%
University Entrance Bridging Course 2	59.00	12.15	105	14	13.33%

University Entrance Bridging Course 1 And 2	58.32	5.90	16	2	12.50%
IELTS	62.47	13.05	331	34	10.27%
English as a Second Language	60.06	12.75	21	2	9.52%
Direct entry program	61.60	11.23	74	5	6.76%
Cambridge Certificate in Advanced English	77.25	.	1	0	0.00%
Lower IELTS entry	64.02	6.07	13	0	0.00%
Private Provider 3	71.63	.	1	0	0.00%
Special Tertiary Admissions Test	64.34	5.18	2	0	0.00%
Test of English as a Foreign Language (TOEFL)	70.61	9.44	26	0	0.00%
Total	60.00	14.62	5104	895	17.54%

As shown in Table 3, with the exception of one student whose ELP evidence was obtained from the 'Private Provider 1', the WA Universities Foundation Program (WAUFP) cohort had the highest proportion of students with a WAM below 50% (66.67%; 14/21). While this number may seem small, it appears that students admitted on the evidence of WAUFP are more likely to struggle with the demands of university courses. Categories with other forms of ELP evidence having a high incidence of students with WAMs below 50% include those in the following categories: *4 weeks of academic English with no further IELTS testing*, *Private Provider 4*; *TAFE Certificate IV*, *Private Provider 2*; and, *Indian Higher School Certificate*. Nearly one-fifth of students who had previously studied in English-medium courses (i.e., in two categories: *English was medium of instruction for previous award* and *Post secondary academic program using English as the medium*) also received a WAM below 50%. It would be useful to examine English-medium courses as evidence of ELP more closely and consider using even more categories in the university's database so that the adequacy of various English-medium courses could be monitored.

Of the cohorts providing the results from an established standardised ELP test such as IELTS and TOEFL, the incidences of students having WAMs below 50 occurred much less frequently. Note, for example, that only 10.27% of those submitting IELTS scores achieved a WAM below 50% and all students admitted on the basis of acceptable TOEFL test scores made successful academic progress. This suggests that the requirement of ELP being met by evidence of standardised ELP tests is effective in predicting the academic success of NESB students. This may also reflect the level of validity, reliability and security of such tests.

The data also shows that students using evidence of another test, the university's own English Proficiency Test, proved to have lower levels of academic success, with 18.42% of these students achieving a WAM below 50%. Also of interest in the findings is that 17.51% of the students for whom no ELP requirement was recorded achieved a WAM below 50%.

However, it is noteworthy that the proportion of low achieving students with no ELP evidence recorded is smaller than those providing ELP evidence from four of the five private providers listed in the database.

IELTS Scores and academic achievement (WAM)

This section explores the relationship between IELTS scores and the academic achievement of both undergraduate and postgraduate students admitted to the university using this test. Table 4 presents the scores for undergraduate and postgraduate NESB students.

Table 4. Mean IELTS sub-test scores for undergraduate and post graduate NESB students

Course level	Writing	Speaking	Reading	Listening	Overall
Undergraduate	6.22 (120)*	6.7 (119)	6.56 (120)	6.92 (120)	6.65 (113)
Postgraduate	6.39 (312)	6.73 (310)	6.58 (311)	7.12 (311)	6.79 (291)

*Numbers in brackets represent the actual number of students.

Relationship between IELTS scores and academic achievement (WAM)

As indicated previously, because of the numerical band score results, it is possible to explore the relationship between the IELTS overall and sub-scores and WAM scores. The correlations are shown for *undergraduate* students in Table 5 below.

Table 5. Correlations between IELTS sub-test/overall scores and WAM scores for undergraduate NESB students

	Statistical analysis	Writing	Speaking	Reading	Listening	Overall test score	Course WAM
Writing	Pearson Correlation	1	.460[**]	.414[**]	.356[**]	.678[**]	.114
	Significance (2-tailed)		.000	.000	.000	.000	.225
	N=	120	119	119	119	111	115
Speaking	Pearson Correlation		1	.355[**]	.464[**]	.728[**]	-.047
	Significance (2-tailed)			.000	.000	.000	.619
	N=		119	119	119	111	114
Reading	Pearson Correlation			1	.520[**]	.742[**]	.268[**]
	Significance (2-tailed)				.000	.000	.004
	N=			120	120	112	115

	Statistical analysis				
Listening	Pearson Correlation	1	.761**	.021
	Significance (2-tailed)		.000	.827
	N=	120	112	115
Test Score	Pearson Correlation		1	.104
	Significance (2-tailed)			.280
	N=		113	109
Course WAM	Pearson Correlation			1
	Significance (2-tailed)			
	N=			

The only significant relationship was between the reading sub-test score and WAM; however, although significant, the relationship can only be described as weak, at best. The relationship between the IELTS sub-tests/overall scores and WAM scores obtained by *postgraduate* NESB students is displayed in Table 6.

Table 6. Correlations between IELTS sub-test/overall scores and WAM scores for postgraduate NESB students

	Statistical analysis	Writing	Speaking	Reading	Listening	Overall score	Course WAM
Writing	Pearson Correlation	1	.441**	.437**	.404**	.710**	.070
	Significance (2-tailed)		.000	.000	.000	.000	.237
	N=	312	310	311	311	291	287
Speaking	Pearson Correlation		1	.346**	.413**	.666**	.164**
	Significance (2-tailed)			.000	.000	.000	.005
	N=		310	310	310	290	285
Reading	Pearson Correlation			1	.526**	.733**	.285**
	Significance (2-tailed)				.000	.000	.000
	N=			311	311	291	286
Listening	Pearson Correlation				1	.781**	.184**

	Significance (2-tailed)			.000	.002
	N=		311	291	286
Test Score	Pearson Correlation			1	.275[**]
	Significance (2-tailed)				.000
	N=			291	267
Course WAM	Pearson Correlation				1
	Significance (2-tailed)				
	N=				

A weak but significant relationship was found in the postgraduate cohort between Reading and WAM as well as the overall test score and WAM. Moreover, there is a very weak, but again, significant relationship for both listening and WAM as well as for speaking and WAM.

Discussion and Conclusion

This study sought to determine if the various forms of evidence of ELP that were accepted by this university in the enrolment procedure were sufficient to ensure that adequate numbers of NESB students could make satisfactory academic progress. Although admission requirements for NESB international and domestic students also include evidence of sufficient academic qualifications, for the purpose of the present study, only the types of ELP evidence were considered. At the university where this study was undertaken, there are numerous ways in which students can provide proof of ELP, including globally recognised standardised test scores, e.g., IELTS and TOEFL, as well as more locally and more recently introduced options such as the completion of English-medium courses, for example, those offered by private Australian and overseas institutions. ELP evidence was the focus of this study because this type of evidence and the related scores and requirements can be set by the institution and because there is limited ability to control non-linguistic factors that may impact upon a student's academic progress (Andrade, 2006; Fox, 2004; Phakiti, 2008).

It should be noted that for the purposes of this study, academic success was equated with the achievement of a WAM score of 50% or greater. To determine the relationships between ELP test types and scores and academic success (i.e., their predictive validity) frequency and correlational statistical analyses were undertaken. These served the purpose of the current study, however, it is acknowledged that other analyses could also have been performed on the data.

The findings show that the predictive validity of ELP is weak, at best. Therefore, if we are to have entry requirements (as most institution do) our results highlight the fact that entering with a set level of proficiency may not be adequate to ensure success in university courses. At the same time, however, it is apparent that some pathways are more conducive to success than others. Thus there is a need to carefully consider entry requirements and to review these

at regular intervals and where necessary modify the levels set. At the same time, it must be acknowledged that although a large number of students were involved in this study, there were gaps in the data because of the data handling procedures at that university.

The findings indicate that the best evidence for potential academic success is provided by globally-recognised standardised tests such as those developed by IELTS and TOEFL. Students who submitted other forms of evidence of ELP tended to have difficulties. These included Foundation and Academic English programs and English-medium courses (overseas and in Australian institutions) such as those offered by TAFE and private Australian and overseas English medium institutions. It would be useful to examine English-medium courses as evidence of ELP more closely and consider using even more categories in the university's database so that the adequacy of various English-medium courses could be monitored. Another form of alternative evidence which was problematic was the university's own English Proficiency Test. This suggests that the qualities of globally-recognised standardised ELP tests such IELTS and TOEFL are much more difficult to duplicate in 'home grown' products. As such, caution should be exercised in attempting to do so without sufficient knowledge, resources and years of focused research.

The exploration of the relationship between IELTS scores and WAMs indicated a weak but significant correlation between the reading sub-test score and WAM for undergraduate NESB students, which is consistent with the findings of previous research conducted in Canada where the reading section of the IELTS test had a significant correlation with the academic achievement of a group of Chinese students (Bayliss & Raymond, 2004). A study by Dooey and Oliver (2002) of NESB students in another Western Australian university had similar findings.

In the postgraduate cohort there was also a weak but significant relationship between the reading sub-test score and WAM as well as for the overall test score and WAM. Again, the reading result is consistent with previous findings (Bayliss & Raymond, 2004; Dooey & Oliver, 2002). Additionally, for postgraduate students a very weak significant relationship was demonstrated for listening and WAM as well as for speaking and WAM. The results for listening and speaking correspond to Woodrow's (2006) findings regarding the IELTS scores and GPA of postgraduate students.

This study has shown that some ELP evidence may not be adequate to ensure success in university courses, particularly evidence that is based on course completion and not actual language proficiency testing. This includes students born in non-English speaking countries who have resided in Australia for less than ten years. They are overlooked because of their oral fluency, yet still need this kind of assistance (Borland & Pearce, 2002).Students entering university on the basis of such inadequate evidence are likely to require continued language support in order to progress academically. Further, if evidence other than standardised tests such as IELTS and TOEFL are to be used to determine ELP, then this needs to be done in such a way that is supported by strong evidence.

The results described here support previous evidence that admission requirements need to be set carefully to minimise the acceptance of students with inadequate English skills or to provide sufficient support so that they can succeed in order to ensure the sustainability of the institution. At the university in which this study was undertaken, the rise in the number of

courses requiring higher levels of ELP and/or compulsory ESL units suggests a heightened awareness among teaching staff and administrators about the level of ELP and language support needed to enable NESB students to succeed in these programs.

For the purposes of monitoring the academic progress of NESB students, it is also critical to (continue to) collect comprehensive data in relation to the ELP evidence accepted by the university. Maintaining such data provides valuable information that enables researchers to evaluate the effectiveness of minimum requirements set by administrators and policy makers, and more importantly, to guide the university's decision-making processes.

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