

Closing the gap: International student pathways, academic performance and academic acculturation

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International students make an important financial contribution to Australian universities, but the English-language pathways through which they meet enrolment requirements are a source of controversy, with concern focused on English-language proficiency (ELP). This study investigates two major pathways by comparing the academic results and questionnaire responses on backgrounds and academic acculturation of students whose ELP test scores met requirements (the Testing pathway) with those who had to complete prior English-for-Academic-Purposes programs (the EAP pathway) due to below-entry-standard ELP test results. Results were that the EAP students had similar pass rates but lower GPAs than Testing students in the first semester; however, this gap narrowed in the second semester. EAP entrants were also younger, more likely to be Asian and to enrol in the Business & Economics faculty, and more likely to report a higher degree of prior learning in academic skills. This paper suggests that, although it is not known whether EAP graduates reach the required ELP levels after their course, learning in academic skills, as distinct from measurable improvements in ELP, may help to equalise their performance with that of Testing students. The findings also support the benefits of an increased focus on academic acculturation for all international students.

Key words: English for Academic Purposes, international students, academic performance, prior learning, academic acculturation, English-language proficiency.

Abbreviations

EAP: English for Academic Purposes

EFTSL: Equivalent Full-time Student Load

ELP: English Language Proficiency

GPA: Grade Point Average

IELTS: International English Language Testing system

1. Introduction

1.1. English-language pathways: facts and concerns

International students make a significant contribution to the economies of many countries; in Australia they contribute to both the wider Australian economy and to the funding of Australian universities. Their contribution to the economy was estimated at 16.6 billion dollars in 2014 (Hare, 2015). In Australian higher education in 2012, international students comprised about 25% of all enrolments (Department of Industry, 2013), and at 27 Australian universities, they comprise 20% or over of the student body (*The Australian*, 2012).

Given the financial importance of international students to the Australian higher education sector, it is not surprising there is some suspicion that ‘universities are enrolling fee-paying students with poor English skills who then receive insufficient language support’, and that these students are being used as ‘cash cows’ by universities (Trounson, 2011). Part of this controversy has focused on English-language and study pathways to university. Birrell (2006) investigated the IELTS results of international student graduates given Permanent Residency (PR) visas in 2005-6 and found that 34% of the total cohort, and 43% of Chinese graduates, achieved test results of only band level 5 or 5.5. He questioned how these students, who were meant to have a minimum band score of 6.0 to enter their tertiary course, had managed to get student visas in the first place. He also questioned the validity of the pathways by which they entered university, since a significant number of those who performed poorly on these pre-PR tests had visas issued onshore, suggesting that these students would have attended some high school in Australia, a foundation course, or an ELICOS course in Australia. Newspaper articles have also questioned whether EAP pathways produce students with adequate ELP (Ziguras, 2007).

Table 1 summarises the different pathways by which international students can enter Australian universities. It shows that the two pathways examined in this paper, Testing and EAP, comprise 75% of students.

Table 1. Summary of ELP pathways.*

Pathway	Description of qualification needed	Percentage of international students (2012)*
Testing	Achieve required language scores in a standardised ELP test (IELTS, TOEFL, CCPE, PTE Academic)	47%
EAP	Pass an approved direct-entry EAP course at an accredited English-language teaching institution	28%
AQF accredited program	Pass a vocational education and training sector program	11%
Schools	Receive a high-school or tertiary qualification from an Australian high school	5%
Non-award higher education	Attend a foundation or other enabling course	9%

*(Australian Education International, 2013)

Concerns about ELP have given rise to an increasing awareness of the need to monitor non-Testing pathways, often known as ‘IELTS equivalences’. By completing other qualifications, students are ‘deemed’ to have reached the ELP required for university (Hirsh, 2007; Murray & O’Loughlin, 2007; Pearce, 2008). According to the Australian Universities Quality Agency (AUQA) (2009, p. 19 Document 2):

There is clearly a significant issue with IELTS ‘equivalences’, which is compounded if institutions do not pay careful attention to the extent to which individual students are coping with the demands of their courses.

This expression of concern reflects the fact that, despite wide recognition of the need to track pathway entrants, few studies have investigated the performance or experience of students entering via the various pathways. As stated in the Association for Academic Language and Learning’s submission to the Australian Universities Quality Agency (AUQA) steering committee for Good Practice Principles for English Language Proficiency, while institutions assume that preparation pathways are ‘pedagogically sound and evidence-based, and are thus credible preparation pathways’, in fact ‘there are no clear or consistent quality assurance mechanisms

that effectively guarantee that students are systematically and adequately prepared for tertiary admission' (2009, p. 7 AALL submission).

However, the question of what is a credible pathway, and what is adequate preparation for tertiary admission, is complex. Clearly, ELP is not the sole factor, as domestic students have a wide range of academic achievement levels, in spite of their presumed fluency in English. There are a number of other possible factors, such as motivation, study skills, and cultural and academic acculturation. This paper sheds light on these questions by examining the differences between EAP and Testing entrants in three areas: first-year academic performance, background and demographic factors, and reported learning in areas of academic skills. Finally, the discussion focuses on whether the relatively small differences between the two groups could be due to the fact that EAP pathway students have reached a threshold level of ELP, and that prior learning in academic skills plays a part in equalising their academic results.

The remainder of this section will review previous studies comparing the performance of entrants from different pathways, the role of ELP in academic performance, and the role of prior academic acculturation in academic performance.

1.2. The academic performance of pathway entrants

The Australian studies comparing the academic performance of the different pathway groups have generally found that EAP students achieve lower academic results. One South Australian study (Anderson, Reberger, & Doube, 2004, p. 37) found that a group that took an EAP course achieved a lower GPA (4.65 compared to 4.93 for IELTS entrants and 4.82 for TOEFL entrants, where 0 points was a fail, 4 a pass and 7 a high distinction) over five study periods (semesters or trimesters). Another South Australian study compared GPAs on test and non-test entrants and found that all non-test entrants had about the same chance of 'achieving a GPA that is below the mean of students entering with a test score' (Leask, Ciccarelli, & Benzie, 2003, p. 23). Similarly, a study in Western Australia (Oliver, Vanderford, & Grote, 2012) found that students who submitted test results as evidence of ELP (IELTS and TOEFL) were more likely to succeed at university than Foundation students, EAP students or students entering via English-medium courses. Another recent study (Dyson, 2014, p. A37) discovered that pathway student marks 'clustered towards the lower end of the grade spectrum' in comparison to all other students, but in this case, the comparison was to all students, rather than to Testing pathway students. In summary, these studies found that the performance of EAP students was lower than Testing or other entrants.

In contrast, one qualitative study (Terraschke & Wahid, 2011), compared the academic experiences of a Testing and a discipline-specific EAP group in a Master of Accounting program, and found that EAP students appeared to have some advantages. For example, the EAP students reported using the vocabulary-learning strategies and speed reading skills that they had learnt, suggesting that their EAP course had given these students some strategies, or at the very least, given them 'the meta-language to describe the contributions of these skills' (Terraschke & Wahid, 2011, p. 179). Also, the EAP students reported that their writing skills had improved over the course of the master's program, while half of the non-EAP students reported both 'disappointment over the lack of similar progress' (p. 179) and uncertainty over how writing skills could be improved, suggesting that the EAP course may have developed awareness of writing skill strategies.

Other research has focused on the ELP of EAP entrants; in particular, whether these courses do in fact produce their target increase of .5 of an IELTS band in 200 hours of study (Brandon & Colman, 2009). One study (O'Loughlin and Bailey, 2006, unpublished, cited in O'Loughlin, 2008) of a small number of EAP students found that 61% of the students who passed the course and then took an IELTS test achieved the required band level of 7.0, and 8.6% only achieved a 6.0. The remaining 31% achieved only the score they had recorded at the beginning of the direct-entry course. However, all achieved satisfactory academic results in their university courses, and 77% of them achieved credit or above. The authors concluded that:

The probability of academic success is still high when students have reached *slightly below* the minimum required proficiency score *and* successfully completed a DEP [direct-entry program]. In other words, DEPs may add particular value when a student who has not quite reached the minimum proficiency requirement for their course undertakes such a program.

Quite similar results emerged in Dyson's (2014) study of 173 participants; 67.6% of them achieved an overall average of 7.1 in IELTS at the end of their 10-week EAP course, which represented over .5 of an IELTS band level improvement over their average pre-course score of 6.1. However, the rest (32.4%) did not achieve the entry requirement level.

Another extensive study by Elder and O'Loughlin (2003, pp. 237, 238) examining how studying in English for Academic Purpose (EAP) courses impacts on IELTS band score gains concluded as follows:

The clearest finding emerging from this research is that 10-12 weeks of intensive study in an English-medium environment does make a significant difference to performance [on IELTS tests], with students on average moving up half a band during this period.

These claims are supported by a smaller study (Archibald, 2001, p. 162) which found that in an intensive EAP course totalling 224 hours over eight weeks, the students, who had an average entry level of 5.5 IELTS, gained an average of 1.1 bands on a test using assessment descriptors similar to IELTS.

Other results are more equivocal. Green (2007) investigated IELTS score gains after three types of courses: direct-entry courses, IELTS preparation programs, and EAP programs that combined IELTS preparation with academic skills teaching. The results showed only modest increases in IELTS levels: less than half a band, with only 10% of learners increasing their scores by a band or more. Brown's small study (1998), which compared score gains after a 10-week English for Academic Purposes (EAP) course and an IELTS preparation course, found an average gain of one-band level in the IELTS preparation course, but only a .3 band level decrease for EAP students.

In summary, the studies on the efficacy of EAP courses in producing increases in ELP have had variable results. Although it is probably fair to say that 10-12 weeks of intensive language study does result in some sort of increase in ELP, it is difficult to quantify this increase. Factors such as teacher quality, curriculum, and cohort backgrounds can affect results, and the lack of benchmarking between courses (Murray & O'Loughlin, 2007) makes it difficult to generalise from any one study.

1.3. Demographic factors and academic success

Age is one factor that could influence academic results, but several studies indicate that age does not affect academic performance (McKenzie & Schweitzer, 2001; Trueman & Hartley, 1996). There are some studies that suggest that mature-age students have other advantages over younger students in terms of academic orientation (McInnis, James, & McNaught, 1995) and deep approaches to studying (Sadler-Smith, 2006), but these studies do not relate their findings to academic results.

The influence of another important factor, region of origin, on academic performance is not well understood, and there have been contradictory findings. A study that measured academic performance by country of domicile in the UK (Morrison, Merrick, Higgs, & Le Metais, 2005) found that undergraduate European students did not perform as well academically as Asian students, and that the performance of students from China was as good as their UK counterparts. These findings were contrary to expectations, as it was expected that students from English-speaking countries would perform better academically.

1.4. The role of ELP in academic success

IELTS studies have frequently found that IELTS scores are a significant but not strong predictor of academic success at university, or that success weakly correlates with one of the subtests (Anderson et al., 2004, p. 38; Cotton & Conrow, 1998, p. 109; Dooley, 1999; Dooley & Oliver, 2002; Ferguson & White, 1998, p. 33; Hill, Storch, & Lynch, 1999; Woodrow, 2006). However, a recent study examining the Pearson Test of English Academic (PTE) (Riazi, 2013, p. 19) found that both it and the IELTS tests 'indicated significant correlations between participants' GPA and their overall score and the four communication skills scores'.

There are several possible reasons for the fact that correlations between test results and academic performance were relatively weak in most of these studies. Firstly, the range of scores tested is inherently limited by the minimum scores required for university entrance. Secondly, although there is most likely a minimum threshold level of 6.0 for success (Feast, 2002), above this level, factors other than ELP may be more important to academic success (Cotton & Conrow, 1998; Criper & Davies, 1988; Dooley, 1999; Johnson, 1988; Kerstjens & Nery, 2000; Woodrow, 2006). A third reason may be that the ELP test tasks do not closely match the skills that are needed at university (Coleman, Starfield, & Hagan, 2003; Moore & Morton, 1999; Picard, 2007; Woodrow, Hirsch, & Phakiti, 2011).

To summarise, the literature suggests that performance on ELP tests is significantly but not strongly related to academic performance within the limited score ranges, and that other factors may impact more above a threshold level. These other factors include academic acculturation.

1.5. The goal and role of academic skill preparation in academic performance

As well as culture shock and 'language shock', international students may experience 'academic shock', or 'difficulties with different academic traditions and expectations' (Ryan, 2005, p. 150). This may be caused by different roles of students and teachers and a lack of familiarity with local traditions of discussion, participation, and critical analysis. The role of EAP programs has developed to include explicit teaching in such local discourse styles; most such courses focus on both language and academic acculturation. This dual focus is reflected in the best-practice guide for direct-entry EAP programs published by English Australia, the national peak body for the English language sector, which states that these programs should 'provide students with a range of linguistic resources and academic skills, to enable them to undertake further study successfully' (Brandon, 2013). In regard to ELP gains, Green (2005, p. 59) cautions against over-emphasising score gains, arguing that EAP courses

help students practically, socially and psychologically as well as linguistically by providing contacts, local knowledge and specifically academic skills that improve chances of success in higher educational institutions.

Included in such courses are topics such as writing in the academic register, writing in academic genres, researching, referencing and citation, plagiarism, critical thinking, making oral presentations and participating in class.

Some studies have explored student perceptions of role of this prior learning in EAP. One large and recent study (Dyson, 2014) measured student perceptions of how well their EAP pathway course had prepared them for university studies as well as how it had improved their language skills. Dyson found that students felt relatively confident about their academic skill preparation, giving the highest agreement score (3.98 out of 5) to the statement, 'I have learned the academic skills I need for university' (Dyson, 2014 p. A34). However, scores for language proficiency improvement were lower, notably for writing and grammar (3.54 and 3.41 respectively).

Research has demonstrated that differences in academic culture can cause difficulties for international students, notably Asian students studying in a Western context, in writing (Cortazzi & Jin, 1997), class participation (Mullins, Quintrell, & Hancock, 1995), group work (De Vita, 2005, p. 78), and oral presentations (Zappa-Holman, 2007). There is also evidence that some skills, such as referencing and citation, are not taught in some non-Western educational contexts. A recent study found that 26 out of a sample of 33 Indonesian students said that during tertiary education in Indonesia, the concept of plagiarism was not taught (Adiningrum &

Kutieleh, 2011). Similarly, Chinese students have been found to be unfamiliar with the view of textual borrowing as plagiarism (Flowerdew & Li, 2007; Holmes, 2004; Wang & Shan, 2007), perceiving it instead in the Confucian context of ‘open and broad access to knowledge as common heritage’ (Ling, 2006, p. 255). Another study on high-ELP Indian students found that referencing was not mandated in undergraduate studies in India, so students were unfamiliar with the requirement (Handa & Power, 2005).

None of the research cited above statistically links prior learning in academic skills, such as that offered by most EAP programs, with academic performance. However, since the research does indicate a lack of familiarity with the host academic culture, it is possible that this factor could influence academic performance. This study therefore aims to explore the possible effects of prior academic skill learning on academic performance through three research questions:

1. Are there differences in the academic performance, as measured by GPA and the ratio of EFTSL (Estimated Full Time Student Load) attempted to EFTSL passed (the ratio of credits attempted to credits passed), between Testing and EAP pathway students in the first semester of university study, and if so, does the difference persist into second semester?
2. Are there demographic differences between the two groups, and if so, could these differences explain differences in academic performance?
3. Are there differences in reported prior academic-skill learning between these two groups, and if so, could these differences impact on academic performance?

2. Methodology

An invitation to complete an online questionnaire was emailed via the international office at a Sydney university to all enrolling international students, inviting those from non-English speaking backgrounds to participate. In addition, participating students were asked to give permission for their academic results to be accessed in Semesters 1 and 2 using their student numbers, and these were obtained for semesters 1 and 2 of the participants first year at university.

The number of respondents in each pathway is shown in Table 2.

Table 2. Pathways of participants.

Pathway	Number	Percentage of total
Testing	134	55%
EAP	108	45%
Total	242	100

The questionnaire contained several sections, including:

- demographics: age group, gender, country of origin, language(s) spoken at home; additional languages spoken.
- education: degree enrolled in; highest level of education completed; tests results (IELTS, TOEFL, CCPE or other).
- English-language pathway
- prior learning of academic literacy skills: EAP pathway respondents were asked about the degree of previous learning on these topics in their EAP course; Testing pathway respondents were asked the same questions, but about previous learning at high school or university.

Results were downloaded into an SPSS file and analysed using a range of statistical tests.

3. Findings

3.1. Academic results

The pass rate results of respondents were calculated using (EFTSL) Attempted/Pass ratios; these are the ratio of credits attempted to credits passed. For both GPAs and EFTSL pass rates, results of 0.00 were omitted, as these results could be for students who withdrew, although this does mean that those who failed with a 0.00 mark were omitted from the analysis. Table 3 shows that there were statistically significant differences between the GPAs for Testing (mean 3.00, median 2.95) and EAP (mean 2.5, median 2.62) in Semester 1 but the effect sizes are small. In Semester 2 Testing means remained at 3.00 while EAP means rose to 2.75; the gap in median GPAs also narrowed (2.96 compared to 2.77). Differences between EFTSL passed percentage did not reach statistical significance. In Semester 1, EFTSL median levels were identical while mean levels were similar, with Testing slightly above EAP, but the results were much closer in Semester 2, when EAP was marginally higher than Testing.

Table 3. EFTSL pass rates and GPAs by pathway, Semesters 1 and 2.

	Testing median (n=125)	EAP median (n=105)	Testing mean (n=125)	EAP mean (n=105)	U^b	z^b	p^b	r^b	Effect size ^c
Semester 1 EFTSL	100%	100%	96.3%	93.2%	6017.5	-1.881	.060		
Semester 1 GPA ^a	3.00	2.50	2.95	2.62	4794.5	-3.53	.000	.23	small
Semester 2 EFTSL	100%	100%	94.8%	95.5%	5801.5	-.423	.672		
Semester 2 GPA ^a	3.00	2.75	2.96	2.77	4688.0	-2.67	.008	.18	small

a. 4.00 = Distinction average; 3.00 = Credit average; 2.00 Pass average; 1.00 = Fail average

b. U refers to the Mann-Whitney statistic for the comparison of the two pathway groups; z the standardized difference assuming a large sample; p the statistical significance of the difference between the two groups with $p \leq .05$ the cut-off for significance; and r the rank-biserial correlation which is a measure of the effect size of the difference between the two groups.

c. Using criteria of .1 = small effect, .3 = medium effect, .5 = large effect (Cohen, 1988, p. 129)

This part of the study answers RQ1, confirming that there are differences in the academic performance of Testing and EAP pathway students in the first semester and second semester of university study.

3.2. Pathways and demographic data

Gender

There were few gender differences in the pathway breakdowns, as can be seen in Table 4. A Chi-square test for independence indicated no significant association between gender and pathway.

Table 4. Pathway and gender.

Pathway		Male	Female	Total
Testing	Count	53	81	134
	Percentage	39.6%	60.4%	100.0%
EAP	Count	41	67	108
	Percentage	38.0%	62.0%	100.0%
Total	Count	94	138	242
	Percentage	37.2%	62.8%	100%

Age, level of study and pathway

In terms of the level of study, Table 5 shows that the two pathways are very similar; both groups were mostly postgraduate students. The same table shows the data on age in conjunction with data on level of study.

Table 5. Pathways, level of study and age groups.

Pathway		Undergraduate					Postgraduate*				
		18-19	20-22	23-25	26+	Total	18-19	20-22	23-25	26+	Total
Testing	No.	4	10	5	3	22	0	11	65	36	112
	%	18.2%	45.5%	22.7%	4.5%	16.4%	0.0%	9.8%	58.0%	23.2%	83.6%
EAP	No.	2	8	5	0	15	0	20	58	13	91
	%	13.3%	53.3%	33.3%	0.0%	14.2%	0.0%	22.0%	63.7%	12.1%	85.8%
Totals	No.	6	18	10	3	37	0	31	123	49	203
	%	16.2%	48.7%	27.0%	2.7%	15.4%	0.0%	15.3%	60.6%	18.2%	84.6%

*All postgraduates were masters candidates.

Chi-square tests for independence were performed for pathway and age. For undergraduates, there were inadequate numbers, so no conclusions could be drawn. For postgraduates, the Chi-square test for independence indicated a significant association between age and pathway, although the effect size was small (<.30). EAP postgraduate students are younger as a group: 75.9% are under 25 while only 67.8% of Testing postgraduates are.

Faculty enrolled in and pathway

A Chi-square test for independence was run on Testing and EAP pathways and indicated no significant association between faculty and pathway. The faculties in which all three pathways are enrolled are shown in Table 6. As can be seen, the greatest proportions enrol in the faculty of Business and Economics; Testing and EAP were similar (68.7% and 72.2% respectively) for this faculty. Similar percentages of Testing (5.2%) and EAP (4.6%) respondents were enrolled in the Science faculty, but more than twice the percentage of Testing respondents were enrolled in the Arts (19, or 14.2%) than EAP students (7, or 6.5%). Higher percentages of EAP students (16.7%) were enrolled in Human Sciences (almost entirely in Translating and Interpreting degrees) compared to Testing (11.9%).

Table 6 also shows the trends that emerge when the file is split by region. Only the Asian region figures are shown, as the majority of all students are from this region. As can be seen, respondents from this region are even more highly concentrated in the Business and Economics faculty than when the cohorts are examined as a whole.

Table 6. Faculty enrolled in by pathway.

Pathway		Arts		Business & Economics		Human Sciences		Sciences	
		Arts total	Arts from Asian region	B & E total	B & E from Asian region	HS total	HS from Asian region	Sc total	Sc from Asian region
Testing	Number	19	5	92	74	16	13	7	0
	Percent	14.2%	5.4%	68.7%	80.4%	11.9%	14.1%	5.2%	0%
EAP	Number	7	5	78	77	18	17	5	2
	Percent	6.5%	5%	72.2%	76.2%	16.7%	16.8%	4.6%	2%
Totals	Number	26	10	170	151	34	30	12	2
	Percent	10.7%	5.2%	70.3%	78.2%	14.1%	15.5%	5.0%	1.0%

Region of origin and pathway

Most of the respondents came from the Asian region, predominantly China. The small numbers in some of the regions prevented statistically significant results, but there were clear differences between Testing pathway students compared to other groups. As seen in Table 7, the Testing pathway students were 68.7% Asian, while EAP students were 93.5% Asian. In order to gauge statistical significance, the region variable was also sorted into Asian and other (table not shown). As expected, a Chi-square test for independence indicated a significant association between region of origin and pathway, and the effect was large.

Table 7. Region of origin and pathway.

Pathway		Asian country	European country	Sub-continent country*	South American country	Middle East or Iran
Testing	Number	92	18	9	13	1
	Percent	68.7% (53.7% China)	13.4%	6.7%	9.7%	.7%
EAP	Number	101	2	1	2	2
	Percent	93.5% (85.2% China)	1.9%	.9%	1.9%	1.9%
Totals	Number	193	20	10	15	3
	Percent	80.1%	8.3%	4.2%	6.2%	1.2%

*India, Bangladesh, Pakistan, Sri Lanka, Nepal

Reported IELTS results and pathway

Most students reported that they had taken an ELP test (Testing 125, or 93.3% and EAP 102, or 94.4%). Of the test choices (IELTS, TOEFL, Cambridge and 'Other') most (Testing 85.3% and EAP 93.5%) selected the IELTS test. Of the other Testing respondents, 11.2% had taken the TOEFL test, and 3% had nominated 'Other test' on the questionnaire, while for EAP only .9% selected the TOEFL test. This reflects the origin of the Testing respondents: more of them came from European or South American countries where TOEFL is usually administered.

Students also reported their test scores. Differences were expected, as inadequate test scores are the reason students undertake EAP courses. As shown in Table 8, there was a statistically significant difference in IELTS Overall scores: Testing entrants had a median of 7.0, a half-band higher than the university's entrance requirement score. The scores also show that there were significant differences on all skill scores and the effect size for the difference between them is large.

The test scores for EAP pathway students reflect their ELP on tests taken before the EAP course. As there is no data available on their IELTS scores after the EAP course, the results do not necessarily show their test score level at university entrance. However, even if the assumption that EAP students advance by half a band level in 10 weeks is warranted, entering EAP students would still be only at 6.5, half a band level below Testing students, and, in Speaking, a full band below.

Table 8. Median and mean IELTS band scores by pathway.

Pathway		Overall score	Reading score	Listening score	Speaking score	Writing score
Testing	Number	115	115	115	115	115
	Median	7.0	7.5	7.5	6.5	6.5
EAP	Number	100	100	100	100	100
	Median	6.0	6.5	6.5	5.5	5.5
Mann-Whitney U statistics ^a	<i>U</i>	1610	3143.5	2673.5	1637	1880.5
	<i>z</i>	-9.28	-5.64	-6.71	-9.16	-8.74
	<i>p</i>	.000	.000	.000	.000	.000
	<i>r</i>	.63	.39	.46	.63	.60
	Effect size ^b	Large	Medium	Medium	Large	Large

a. Defined with Table 3.

b. Using criteria of .1 = small effect, .3 = medium effect, .5 = large effect (Cohen, 1988, p. 129).

To summarise, the two groups were very similar in gender and level of study but there was a small difference in age for postgraduates; EAP respondents were younger. Also, more EAP students were from an Asian country. Finally, the IELTS scores of the Testing group were significantly higher.

The results presented in this section address the first part of RQ2, which asks whether there are demographic differences between the two groups. In order to answer the second part of this question, whether these differences could impact on academic performance, more tests were run to examine the effect on GPAs of the factors in which there were differences in the two groups.

Tests to further explore differences

Tests did not show any correlations between age and GPA, nor for GPA differences across the four faculty groups.

The correlations of GPAs by region of origin for postgraduates, however, were more significant. Significant differences were found in GPAs for postgraduates in Semester 1 ($p = .012$) and in Semester 2 ($p = .047$) for region of origin. These differences were further explored using Mann Whitney U tests to compare Asian and other regions of origin. Significant differences were found only for Semester 1 between Asian and European groups (Asian GPAs were 2.77 while European GPAs were 3.41 ($p = .001$), but the effect size was small and results should be interpreted with caution given the small number of cases in the European category (16).

3.3. Beliefs about academic skills learned in previous studies and pathway

Participants were asked a range of questions about how much they had learned about skills or topics during the course of their previous studies. The questionnaire design split the pathways, so that EAP students were asked how much they learned about these skills in their *EAP course*, while Testing students were asked how much they learned about these skills in their *previous studies*. Students were asked to rank their learning of 11 academic skills by selecting one of the following options: *I learned this well (5)*; *I learned a moderate amount about this (4)*; *I learned a little about this (3)*; *I learned very little about this (2)*; and *I learned nothing about this (1)*.

Mann Whitney U tests revealed statistically significant differences between the Testing group and the EAP group in all except one academic skill question. In all of these significant differences, the EAP group reported more learning. The results are shown in Table 9.

Table 9. Feelings about previous learning in academic skills and university readiness for Testing and EAP respondents.*

Item: How much I learned about... ^a	Testing mean (n=130)	EAP mean (n=102)	U^b	z^b	p^b	r^b	Effect size ^c
referencing and citation	3.58	4.39	3832	-5.86	.000	-0.39	medium
plagiarism	3.58	4.66	2794	-8.05	.000	-0.53	large
planning writing	3.57	4.30	3525	-6.60	.000	-0.43	medium
oral presentations	3.59	4.21	4389	-4.77	.000	-0.31	medium
writing an essay	3.58	4.24	4050	-5.48	.000	-0.36	medium
researching a topic online	3.50	4.02	4994	-3.37	.001	-0.22	small
participating in discussion	3.63	4.21	4477	-4.50	.000	-0.30	medium
topics, concepts or vocabulary in my degree	3.47	3.75	5552	-2.25	.025	-0.23	small
reading requirements in my degree	3.62	3.84	5920	-1.47	.141		
writing requirements in my degree	3.25	3.76	4886	-3.61	.000	-0.24	small
what is expected of me at university	3.50	4.04	4744	-3.93	.000	-0.26	small

a. EAP students were asked how much they learned about these skills in their *EAP course*; Testing students were asked how much they learned about these skills in their *previous studies*.

b. Defined with Table 3.

c. Using criteria of .1 = small effect, .3 = medium effect, .5 = large effect (Cohen, 1988, p. 129).

This data answers RQ3, which was whether the two groups would report different levels of prior academic skill learning. The data shows that EAP pathway students reported more learning of academic skills.

4. Discussion

This study has shown that international students who enter via the Testing pathway have better academic results at university than EAP pathway students, but that the differences are small. In this section, this core finding will be discussed in light of the findings on demographic, ELP levels and prior learning differences. It will be argued that, because demographic differences fail to explain the differences in GPAs, the differing levels of reported prior academic skill learning are a possible explanation for the fact that the differences in GPAs between the two groups were small in spite of the fact that the Testing group had significantly higher ELP test scores.

4.1. Differences in test results, age and region of origin

EAP pathway students are at a disadvantage in terms of having lower IELTS results, and even if EAP students do in fact progress by half of a band level during their 10-week course, their mean ELP levels would still be half a band below the Testing students. Although, as has been discussed, IELTS scores are not strongly predictive of academic performance, a recent study (Dyson, 2014) of pathway student results concluded that ELP does affect academic results. In addition, in a study of three universities, staff and international student attitudes towards whether ‘the IELTS entry score required by the university is an accurate measure of English language abilities necessary to succeed at university’ were explored (Coleman et al., 2003). Most staff felt the level of 6.0 was clearly inadequate, and one lecturer stated that when students enter at level 7.0 their educational experience is much better. In summary, it seems reasonable to surmise that the difference in IELTS scores could account for a least some of the differences in GPAs seen in this study.

Also, although the EAP postgraduate respondents are younger as a group, the differences are not large, so this study supports previous research that fails to find that age affects academic performance.

Another possible influence on GPAs is region-of-origin differences; more EAP students were from the Asian region. Asian-origin postgraduate students had lower GPAs in Semester 1 when compared to European students; however, the numbers of European students were small so it is very difficult to draw any conclusions from this. It is important, however, to note that this difference could be related to the degree of similarity in academic culture rather than ELP.

As previously mentioned, the sparse data on region-of-origin differences in academic performance have been inconclusive. However, another British-based study (Li, Chen, & Duanmu, 2010) compared Chinese students to other international students and found that Chinese students had significantly lower marks on an English test score and in writing ability, and that their academic performance (measured by a self-reported ‘average mark’) was also significantly lower than those of other international students. Multiple regression analyses and independent samples *t* tests indicated that the key predictor of academic performance was English writing ability (a factor also examined by Dyson (2014) who found that a significant number of EAP pathway students exhibited ‘at risk’ writing levels). An interesting finding in relation to this study was that Chinese students who had ‘never studied overseas before tended to do better in their studies than their compatriots who had’ (Li et al., 2010, p. 401). The study provided limited information on the students’ previous study in Britain, but it could be that the students who had previously studied in Britain were those who entered via an EAP pathway. If that was the case, this study supports the lower academic performance of EAP pathway students. It also supports the limited findings in this study that indicate European postgraduates perform better academically than their Asian counterparts in an English-dominant academic environment, which could in turn support the contention that differences in academic culture background play a part.

4.2. Beliefs about academic skills learned in previous studies and confidence levels

The findings showed that EAP pathway students report more learning of general academic skills than Testing pathway students. This supports previous literature on EAP courses. According to one study (Fox, Cheng, Berman, Song, & Myles, 2006), EAP students generally feel that preparation courses give them a better chance than students who do not take such courses and help them to acculturate to different academic learning practices, including using the library, note-taking, thinking critically, and understanding lecture styles and classroom participation expectations. This contention is supported by another study, (Dooey, 2010, p. 197) which revealed that EAP students felt that they had been given guidance in adjusting to the new academic environment, and were able to learn

a broad range of valuable academic skills, in an environment which provided a substantial degree of one-to-one academic support and supervision. Their counterparts who had proceeded directly into their tertiary courses without

having to undertake such a pathway program, would have had to acquire those vital skills of their own accord.

Another more recent study (Dyson, 2014) found that students felt that they had learned the academic skills needed for university at their EAP course, although their confidence in their language improvements was not as high. Conversely, Campbell and Li (2008, p. 382) reported that many of their non-EAP participants had never had any academic skill training at all, and that this lack of explicit instruction in local academic conventions created problems, so 'they often had to grope in the dark, through trial and error'.

While normally socialisation into a discipline in the new, Western context takes time, according to Abasi, Akbari and Graves, 'EAP courses are...an effort to expedite this socialization process' (2006). As Campbell and Li point out (2008, p. 390), 'It is unrealistic to expect Asian international students as novices who have never been acculturated in the discourse to learn the ropes by themselves.'

These findings also indicate that these EAP students have engaged in learning in areas that have been shown to be areas of difficulty for international students; in other words, the reported learning did address relevant areas. The literature shows that international students experience difficulties in writing (Berman & Cheng, 2001; Holmes, 2004; Shen, 1989; Ward & Masgoret, 2004), in delivering oral presentations (Berman & Cheng, 2001; Duff, 2007; Morita, 2000; Ward & Masgoret, 2004; Zappa-Holman, 2007), and in research (Abasi et al., 2006). A large body of literature has explored the difficulties that these students, and particularly students from Asian cultures, have in participating in discussions in class (Campbell & Li, 2008; Duff, 2007; Holmes, 2005, 2006; Morita, 2004; Tani, 2005; Walker, 2004), a skill explored in many EAP courses.

One of the key differences between Testing and EAP pathway students that emerged from this study was in previous learning about plagiarism; the EAP students' mean of 4.66 was considerably higher than the Testing level of 3.58. A related difference was for the item of referencing and citation. It has been argued that educational backgrounds which do not emphasise the formation of new meanings and which focus on reproduction of knowledge tend to produce 'plagiarist' writers (Abasi et al., 2006; Barrett & Malcolm, 2006; Handa & Power, 2005), but that notions of plagiarism are complex and culturally situated (Abasi & Graves, 2008; Flowerdew & Li, 2007; Hayes, 2005; Pennycook, 1996; Sowden, 2005; Sutherland-Smith, 2005). Students from European cultures may experience less difficulty in this area. For example, Ling's study (Ling, 2006) reported that German students saw plagiarism as a linguistic challenge while Asian students regarded it as a cultural challenge.

Some studies suggest that academic acculturation in EAP programs can help students to avoid plagiarism. A study of plagiarism amongst Chinese students in a UK university found that the group with the least amount of plagiarism were those who had attended a bridging English course (Barrett & Malcolm, 2006). Another university study found that students who had not attended EAP programs sometimes complained that they were unfamiliar with referencing requirements, and did not know how to cite or reference (Campbell & Li, 2008). In short, this present research tends to support the studies that show that EAP students have experienced a higher level of prior learning in academic acculturation, including in skills that have been shown to cause difficulties for international students from different academic backgrounds.

5. Conclusion

Although this study does not prove that prior learning in academic skills aids EAP students, nor that it had an impact on their GPAs, it does suggest that prior learning is valuable in helping students whose ELP may be inadequate to close the gap in academic performance. Given the significantly lower ELP test scores of the EAP students, even with a deemed increase of half a band as a result of their EAP course, and the possibility that region-of-origin could be having a negative impact on the academic results of EAP students, the research suggests that prior learning may be a factor contributing to the fact that there were relatively small differences in GPAs and no significant difference in EFTSL (Estimated Full Time Student Load) attempted to

EFTSL passed ratios between the Testing and EAP groups. At the very least, this study indicates that future research in this area could be fruitful.

Most importantly, the study suggests that academic acculturation could be valuable for all international students who come from markedly different academic culture backgrounds, regardless of their ELP levels. It is clear that many international students do not feel prepared for university. This lack of preparedness can be exacerbated when students are not made explicitly aware of the differences. As Zhou et al. (2008, p. 63) assert, adapting to a different academic culture is difficult enough, but it is 'even more difficult when the newcomer is unaware and falsely assumes that the new society operates like their home country'. Universities, using their Academic Language and Learning and English language centres, could assist students from pathways other than EAP to have a better academic experience, and possibly better academic results, if they increased their offerings of both preparation programs and ongoing support in academic acculturation to all international students.

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