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## INTERNATIONAL & COMPARATIVE EDUCATION | RESEARCH ARTICLE

# Comparing the self-efficacy and writing-related abilities of native and non-native English-speaking students

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**Abstract:** The internationalisation of higher education generates several issues related to quality, uniformity of subjects taught across campuses and the role of differences in English-speaking ability, which may affect student learning and skills development. This study used a self-assessment survey framework to investigate Australian (native English speaking) and Malaysian (non-native English speaking) students' perceptions of their writing-related competencies. These perceptions were then correlated with students' grades for specific writing tasks at the Australian and Malaysian campuses of Monash University, a research-intensive tertiary institution. Student perceptions of six competencies were determined upon commencement and completion of a core science subject, SCI2010. Australian and Malaysian student perceptions of their abilities improved for all six, and four of the surveyed competencies, respectively. Upon commencement of the science unit, Malaysian students' self-efficacy was higher than that of Australian students for three competencies. However, by completion, Australian students had higher self-efficacy for all six competencies, which correlated with their higher literature review grades.

### ABOUT THE AUTHORS

The authors are science academics with a diverse range of teaching and research interests, including plant sciences, ecology and evolutionary biology, molecular biology and science communication and dissemination. Their scholarly research in learning and teaching include facets of work-integrated learning, effective use of technology to enhance student learning and skills development, and evaluation of students' self-efficacy of their generic skills. Additionally, the authors are actively engaged in curriculum innovation and renewal across tertiary science curricula, including large enrolment foundation units and core subjects at higher year levels. They have collaborated with science colleagues to develop, implement and evaluate inquiry learning across undergraduate programmes, and to enhance tutor capability with respect to these pedagogies. The authors have been the recipients of a range of grants and awards, including national grants for disciplinary and pedagogical research, and university and faculty awards for education and teaching excellence.

### PUBLIC INTEREST STATEMENT

This paper presents valuable information about the differences in confidence related to writing and writing-associated abilities between native English- and non-native English-speaking university students. These two sets of science students attended an Australian and Malaysian campus of Monash University, respectively. The possible relationship between students' writing-related confidence and their actual writing ability was also investigated. Initially, Malaysian students were more confident about their writing-related abilities than were Australian students, although this pattern reversed over the course of the course. This study demonstrates that assumptions cannot be made about students' confidence in their writing-related abilities, regardless of their English-speaking proficiency. Further, the study shows that universities with international campuses must provide effective and targeted help to maximise students' writing and writing-related skills.

There was no difference in grades for the annotated bibliography assignment. These results have important implications for the delivery of university subjects across international campuses.

**Subjects: Education; Higher Education; International & Comparative Education; Multicultural Education; Pedagogy; Teaching & Learning**

**Keywords: demographic differences; student perceptions; writing skills; ESL; comparative assessment; pedagogy**

### 1. Introduction

Over the past two decades, higher education has become an increasingly global enterprise (McBurnie & Ziguras, 2006; Woodrow, 2011). Transnational education programmes comprise three broad elements. The first is the burgeoning international student market, in which courses at established Western universities are available to fee-paying students (Kell & Vogl, 2012; Ziguras & Law, 2006). The second element comprises long-standing, but increasingly popular “study abroad” programmes, which promote student mobility through study at an international campus of their university or at one of a range of overseas partner universities (Bakalis & Joiner, 2004; Marginson, 2006). The third element has been the establishment by Western universities of overseas branch campuses, which serve to enhance their international reach and profile (Altbach & Knight, 2007). The number of international branch campuses of such universities has grown from 35 to 200 over the past decade (Lawton & Katsomitros, 2012). Where the same course is offered at local and international campuses, potential issues of logistics, the tailoring of content to suit local context (Woodrow, 2011) and uniformity of curricula and quality assurance need to be addressed in order to maintain comparable standards, regardless of study location (Castle & Kelly, 2004; Dobos, 2011).

Academic success is determined by a range of factors, including prior knowledge (Prosser, Trigwell, & Taylor, 1994), university entrance score (McKenzie & Schweitzer, 2001), language proficiency (Andrade, 2006; Parkinson, 2000) or combinations of these (McKenzie & Schweitzer, 2001; Rayner, 2014). Writing ability has also been identified as a critical factor in academic success (Patterson, 2001). Writing competencies belong to two broad groups: writing proficiency and writing task-related skills. The former includes abilities such as punctuation, grammar, word choice and composition, and latter-related skills include an ability to source information and apply suitable writing conventions (Pajares, 2003). Although writing-related tasks pose difficulties for most students (Wilson, 1997), they can be particularly stressful for non-English speakers (Baker & Hawkins, 2006; Cheng, 2004). For such students, writing English may be a considerable contributor to a phenomenon known as “foreign language anxiety” (Horwitz, Horwitz, & Cope, 1986; Tran, Baldauf, & Moni, 2013). Such anxiety may be contributed to by non-English speakers’ concerns about attribution and the need to avoid plagiarism, which have been previously noted (Shi, 2012).

Additionally, student judgements of their writing self-efficacy have considerable potential to impact the actual quality of their writing, through the integrative effects of effort, interest, attention to detail, and perseverance and resilience under stressful conditions (Pajares, 2003). In this context, self-efficacy is defined as students’ relative confidence (Bong & Skaalvik, 2003; Bong, 2008) in relation to their writing and writing-related abilities. Previous investigations of a possible connection between students’ self-efficacy and their actual writing ability show no consistent pattern, with considerable research showing a positive correlation between these factors (Multon, Brown, & Lent, 1991; Pajares, 2003; Pajares & Johnson, 1996; Prat-Sala & Redford, 2012), and some research indicating no such correlation (Jones, 2008; Ong, 2015), regardless of students’ English language competency.

More than two decades ago, Silva (1993) called for research comparing native English-speaking (L1) and non-native English-speaking (L2) students’ efficacy of their writing-related skills. While a considerable body of research has subsequently built on Silva’s call for further exploration of the

topic, these studies have largely been in secondary educational settings (Bruning, Dempsey, Kauffman, McKim, & Zumbrunn, 2013), pre-service teacher education (Kwan & Yunus, 2014) or tertiary disciplines other than science (Chae, 2011). A thorough review of the literature suggests that comparisons of L1 and L2 university science students' self-efficacy of their writing and writing-related abilities is a poorly researched and/or reported area of scholarship. Based on the above information, the aims of this study were to:

- (1) Investigate possible differences between L1 and L2 science undergraduates' self-efficacy of their writing and writing-related competencies.
- (2) Explore the potential impact of SCI2010 on students' self-efficacy of these competencies.
- (3) Compare L1 and L2 student grades for two writing tasks to investigate possible correlations between their self-efficacy and actual achievement.

With respect to these aims, we hypothesised that (1) L1 students would have greater self-efficacy than L2 students regarding their writing-related abilities; (2) SCI2010 would have a positive, but not differential impact on the self-efficacy of students' writing-related abilities; and (3) there would be a positive correlation between students' self-efficacy and their actual writing ability.

## 2. Methodology

### 2.1. The study setting and student cohorts

SCI2010 is a core second-year subject taught at both a Malaysian (Sunway) and Australian (Clayton) campus of Monash University, focusing on science communication and practice, and undertaken over a single university semester. Undergraduate students who completed SCI2010 over 2010–2012 were chosen for investigation. Given the uniformity of teaching and assessment protocols in SCI2010 over this three-year period, this provided an excellent setting against which to investigate the research question. The two cohorts (Australian:  $n = 2,600$  and Malaysian:  $n = 669$ ) were subsequently standardised such that each contained only students with the same writing history, that being completion of two first-year biology essays in their degree studies. To prevent potential confounding effects, students who had completed essays or literature reviews in other first- or second-year subjects during 2010–2012 were excluded from analysis. Students studying on Monash University exchange programmes were also excluded from all analyses. Final cohort sizes were  $n = 535$  for Australian students, and  $n = 66$  for Malaysian students.

### 2.2. Students' self-efficacy of their writing-related competencies

Via pre- and post-semester surveys, administered using the online course management system, SCI2010 undergraduates assessed their self-efficacy to undertake a range of writing and writing-related competencies. Assessed competencies were their self-efficacy regarding the ability to (i) prepare written summaries of scientific papers, (ii) prepare a written scientific literature review, (iii) find relevant scientific literature, (iv) ask and refine questions on scientific topics, (v) understand scientific referencing requirements and (vi) avoid plagiarism. These competencies were chosen as they constructively align the learning objectives and assessment criteria for the writing tasks in SCI2010, and constructive alignment between subject learning objectives and assessment criteria is considered a hallmark of educational excellence (Biggs & Tang, 2011). The surveys did not gauge students' self-efficacy of writing skills such as grammar, composition, clarity of expression or punctuation. Data for each competency were pooled across the six semesters from 2010 to 2012.

### 2.3. Examining the alignment between student writing task grades and their self-efficacy

Students completed two writing tasks for SCI2010: (i) an annotated bibliography (AB), comprising summaries of five scientific papers, followed by (ii) a literature review (LR), an 1,800-word thematic science essay. Marking of the AB and LR was undertaken by experienced and trained tutors, all of whom had undertaken a marking and assessment workshop, which included cross-checking and

subsequent discussion to prevent potential biases. This assessment strategy is consistent with accepted practices for such writing exercises (Song & Caruso, 1996). Students used Turnitin® plagiarism detection software prior to submitting their assignments, with a 10% similarity index set as the maximum allowable threshold. Although Turnitin® is not mandated by Monash University for plagiarism detection in students' written work, it has been shown to enhance their understanding of academic integrity and the requirement for attribution (Graham-Matheson & Starr, 2013), and to enhance the paraphrasing ability of L2 students on English-writing tasks (Davis, 2007). Students' use of Turnitin® in SCI2010 was supported through printed and online materials, together with dedicated tutorials, which reduce rates of plagiarism (Heckler, Rice, & Hobson Bryan, 2013). The AB and LR assignments were assessed using separate rubrics to evaluate four general criteria, content, structure, style and referencing, which align with the learning objectives for the unit and the assessed competencies. AB grades were pooled across the six semesters, and means determined for each of L1 and L2 cohorts. This method was also used for the LR assignment.

#### **2.4. Statistical analyses**

Means and standard error measurements (SEMs) of student self-assessment survey data were calculated using a modified, 10-step Likert-type scale (Likert, 1932) from 0.0 to 1.0, with students using a 0.1 step choice. One-tailed *t*-tests (Gosset, 1908) were applied to derived means, with differences considered significant if  $p < 0.05$ . Cohen's (1988) *d*-values of effect size were calculated using Microsoft Excel®. Analysis of variance (ANOVA) was carried out in SYSTAT® to test relative differences between L1 and L2 students in terms of their increased self-assessed ability for each competency.

### **3. Findings**

#### **3.1. Student self-efficacy of their writing-related abilities at commencement of SCI2010**

Comparing cohorts, L2 students started at a significantly higher level of confidence than L1 students for three of the six writing and writing-related competencies. These were their perceived ability to (i) prepare written summaries of scientific papers, (ii) prepare a written literature review and (iii) ask and refine questions on scientific topics (Figure 1).

While L1 students ranked their self-efficacy to prepare a scientific literature review significantly lower than all other competencies (*t*-values between 2.2 and 10.3, with corresponding *p*-values  $< 0.0001$ ), L2 students ranked it lower than only three other competencies (*t*-values between 1.4 and 2.3, with corresponding *p*-values  $< 0.004$ ). This competency was not significantly different than students' perceived ability to (i) prepare written summaries of scientific papers and (ii) ask and refine questions on scientific topics (Figure 1).

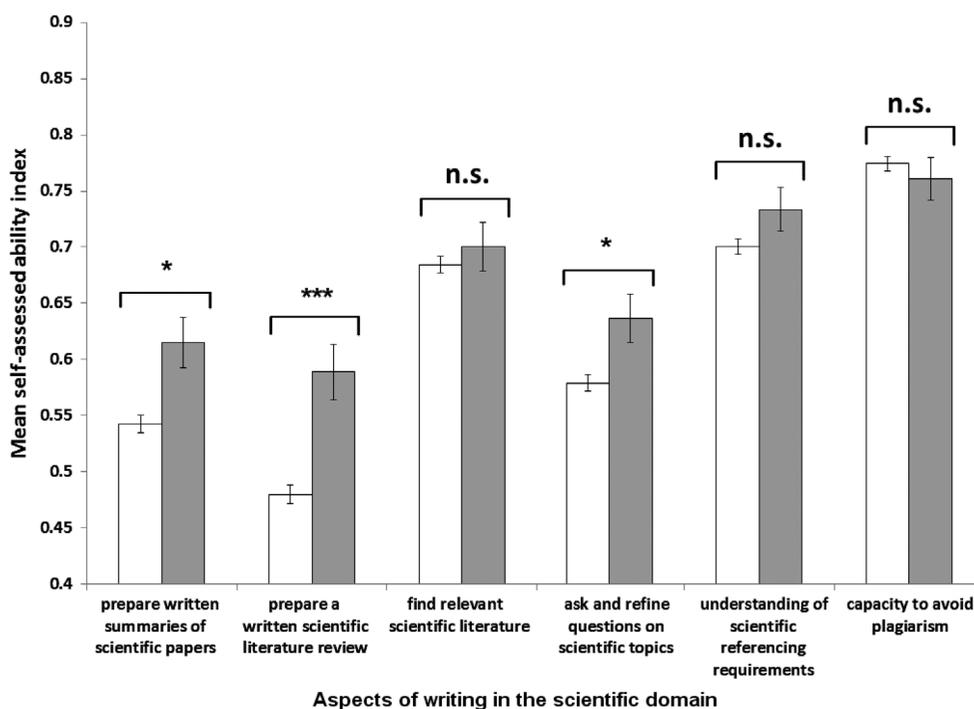
Upon commencement of SCI2010, L1 students ranked their capacity to avoid plagiarism significantly higher than all other competencies (*t*-values between 2.0 and 10.3, with corresponding *p*-values  $< 0.0001$ ) (Figure 1). L2 students ranked this ability higher than four of the other five competencies (*t*-values between 0.9 and 2.3, with corresponding *p*-values  $< 0.03$ ). The only non-significant difference related to L2 students' understanding of scientific referencing requirements (Figure 1).

#### **3.2. Student self-efficacy of their writing-related abilities on completion of SCI2010**

In contrast to the pattern observed at commencement of this subject, by completion of SCI2010, L1 students had significantly higher self-efficacy than L2 students for each of the six competencies (Figure 2). Nevertheless, L1 students still rated their self-efficacy to prepare a written scientific literature review significantly below all other competencies (*t*-values between 1.8 and 7.2, with corresponding *p*-values  $< 0.0001$ ). Contrastingly, L2 students continued to rank this competency lower than four of the other five competencies (*t*-values between 1.2 and 1.6, with corresponding *p*-values  $< 0.009$ ), with a non-significant difference between this competency and asking and refining questions on scientific topics (Figure 2).

**Figure 1. Comparison of L1 (open columns) and L2 (shaded columns) students' self-efficacy (mean  $\pm$  SEM) of their writing and writing-related competencies, at commencement of SCI2010.**

Notes: n.s. denotes not significant, \* denotes  $p < 0.05$  and \*\*\* denotes  $p < 0.001$ . Ability index ranged from 0 (no ability) through 0.5 (moderate ability) to 1.0 (very strong ability).



With regard to their self-efficacy to avoid plagiarism, upon completion of SCI2010, L1 students ranked this ability significantly higher than four of the other five competencies ( $t$ -values between 1.5 and 7.2, with corresponding  $p$ -values  $< 0.001$ ). The only non-significant difference was with L1 students' self-efficacy to understand scientific referencing requirements (Figure 2). By contrast, L2 students' self-efficacy to avoid plagiarism ranked higher than only two of the other five competencies (both  $t$ -values between 1.1 and 1.2, with corresponding  $p$ -values  $< 0.02$ ). There was no significant difference between this competency and students' self-efficacy to (i) understand scientific referencing requirements, (ii) find relevant scientific literature and (iii) prepare written summaries of scientific papers (Figure 2).

### 3.3. Comparing student self-efficacy at commencement and conclusion of SCI2010

Regardless of campus, students' self-efficacy of their writing and writing-related abilities was mostly higher at completion of SCI2010 compared to commencement. An increase in confidence was observed for four competencies among L2 students, and for all six competencies among L1 students, with effect sizes ranging from small (0.1) to large (1.0) (Table 1). L2 students did not show a significant increase in self-efficacy regarding (i) their understanding of referencing requirements and (ii) their capacity to avoid plagiarism (Table 1). Further, the increase in L1 students' self-efficacy was significantly higher than that of L2 students for five of the six competencies (Table 1).

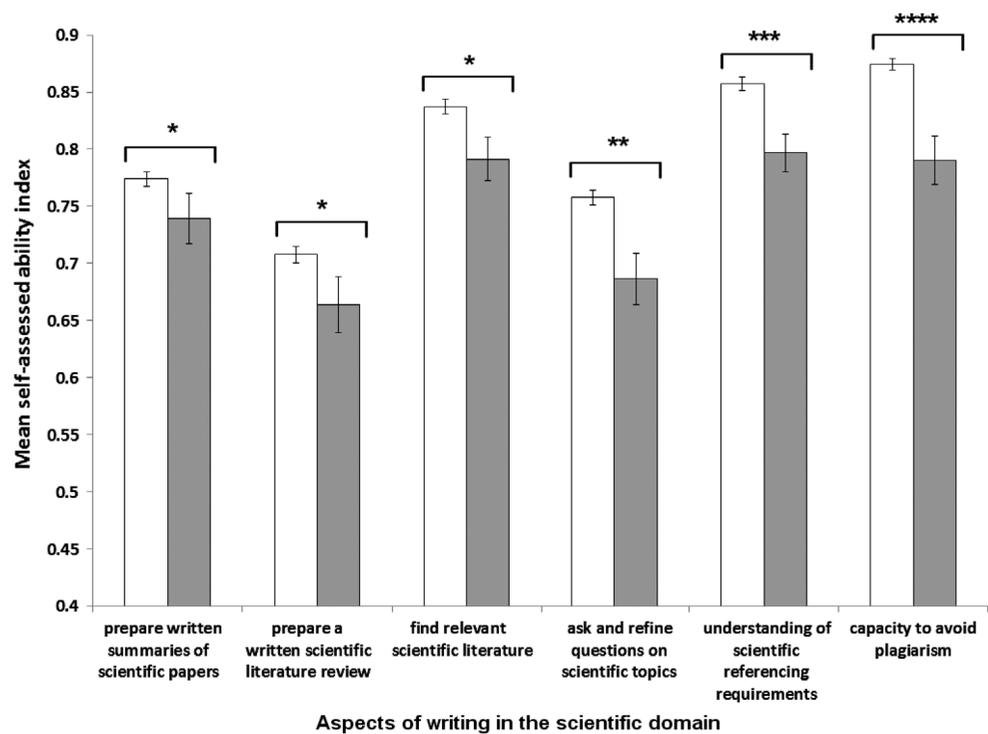
### 3.4. Comparison of L1 and L2 students' assignment grades

There was no significant difference between the cohorts in terms of overall mean grades for the AB assignment (Figure 3). Nonetheless, the mean grade of L1 students for the LR was significantly higher than that of L2 students (Figure 3). Thus, the higher increase in the self-efficacy of L1 compared to L2 students to write a scientific LR (Table 1) is reflected in the actual grades obtained for this task, even if this relationship is not evident for the AB assignment.

For both cohorts, there was no correlation between their level of confidence to prepare the AB and their grades for that assignment. While there was a weak but significant positive correlation between L1 students' level of confidence to write a LR and their grades for the LR ( $r = 0.1$ ,  $F = 6.87$ ,  $p = 0.009$ ), this was not observed for L2 students.

**Figure 2. Comparison of L1 and L2 students' self-efficacy (mean  $\pm$  SEM) for six writing and writing-related competencies, at completion of SCI2010.**

Notes: \*\* denotes  $p < 0.01$ ; \*\*\*\* denotes  $p < 0.0001$ , with all other indications as per Figure 1.



#### 4. Discussion

The higher self-efficacy of L2 students at commencement of SCI2010 (compared to L1 students) for three of the competencies is unexpected, and does not support our initial hypothesis. This observation may result from three interacting variables, the first of which is the positive relationship between students' perceptions of their ability and their degree of self-regulation (Pajares, 2003; Schunk & Zimmerman, 2006). This relationship has previously been reported by Volet, Renshaw, and Tietzel (1994) for south-east Asian learners. Self-regulation is an important determinant of student learning outcomes and achievement (Heikkilä & Lonka, 2006; Pajares, 2003), and L2 students may thus have felt better prepared after their first year of study to undertake the SCI2010 writing tasks. The second interacting variable is that L2 students may have undervalued or discounted required academic standards for the unit, and thus initially over-inflated their abilities. This is consistent with the findings of Kruger and Dunning (2009), who reported that students sometimes lack the capacity to distinguish accuracy from error, and that such deficits may lead to an inflated perception of their ability in specific intellectual domains. The third interacting variable is that many L2 students come from comparatively privileged situations, and their high level of self-efficacy may be due in part to a broader sense of entitlement and the confidence that often accompanies this (Vandrick, 2009).

The improvement in both L1 and L2 science students' perceptions of almost all of their writing and writing-related abilities over the course of SCI2010 demonstrates this subject's pedagogical effectiveness with respect to such competencies, across different demographic settings. In regard to the relatively small effect sizes obtained for L2 students' perceptions of these competencies, as Coe (2002) points out, in relation to educational innovation, an effect size of 0.1 can be regarded as worthwhile, particularly when applied equally to all students, as was the case in our study. While we recognise the limitation of unequal sample sizes of our cohorts, these results are consistent with other those reported by researchers, including Soontiens (2004) and Wilkins and Balakrishnan (2012). Collectively, these outcomes reinforce the potential of core science subjects, such as that described herein, to improve students' communication skills (Daly, Leveson, & Dixon, 2011), regardless of their English-speaking background.

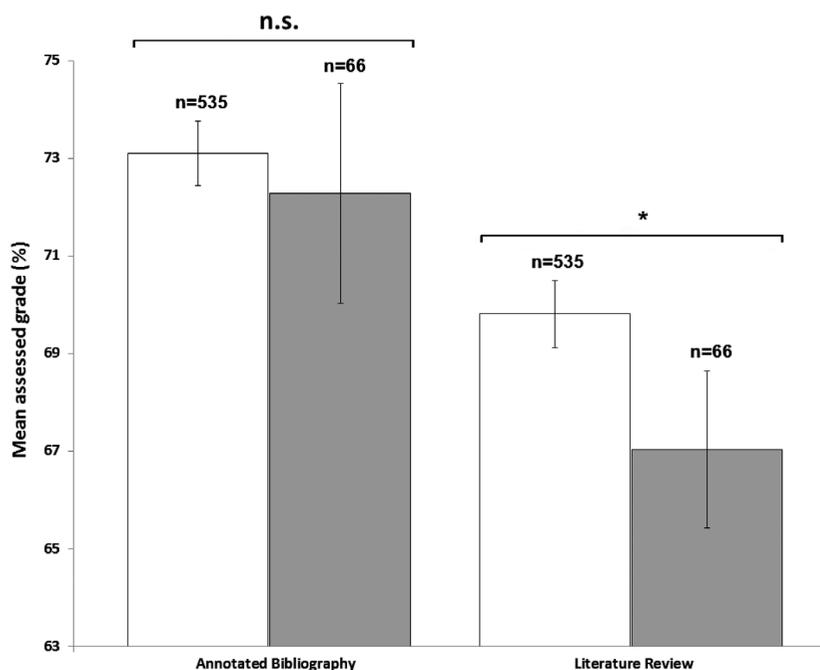
**Table 1. Increase in mean self-assessed ability (index units) for six writing and writing-related competencies for L1 and L2 students and comparison of differences in such increases**

Ability to:	L1 students		L2 students		Comparison of L1 and L2 increases	
	Increase in self-assessed ability	Effect size	Increase in self-assessed ability	Effect size	F	p
Prepare written summaries of scientific papers	0.23****	1.2	0.13***	0.5	1.55	0.001
Prepare a written scientific literature review	0.22****	1.1	0.08*	0.3	2.15	<0.0001
Find relevant scientific literature	0.13****	0.7	0.09**	0.5	0.58	0.095
Ask and refine questions on scientific topics	0.19****	1.0	0.07*	0.3	2.06	<0.0001
Understand scientific referencing requirements	0.14****	0.8	0.05 n.s.	0.3	1.70	0.0004
Avoid plagiarism	0.11****	0.6	0.01 n.s.	0.1	1.84	0.0002

Note: n.s. denotes not significant.  
 \*Level of significance at  $p < 0.05$ .  
 \*\*Level of significance at  $p < 0.01$ .  
 \*\*\*Level of significance at  $p < 0.001$ .  
 \*\*\*\*Level of significance at  $p < 0.0001$ .

**Figure 3. SCI2010 grades (mean  $\pm$  SEM) for the AB and LR assignments for L1 (open columns) and L2 (shaded columns) students.**

Notes: n.s. denotes not significant; \* denotes  $p < 0.05$ .



The lack of significant improvement in L2 students' perceptions of their ability to avoid plagiarism and understand scientific referencing requirements is consistent with what has been reported for such students (Shi, 2012). However, that L2 students started at a higher level of confidence than L1 students with respect to this attribute is noteworthy, and further study in this area is required in

order to better resolve these somewhat conflicting results. Plagiarism is a considerable and growing problem across the higher education sector, both in Australia (Devlin & Gray, 2007) and internationally (Park, 2003). A lack of confidence among L2 students in their English-writing abilities has been previously reported (Robertson, Line, Jones, & Thomas, 2000), and may be a contributing factor to the observed lack of an increase over the course of the semester in their self-perceived capacity to avoid plagiarism. If correct, this calls for greater scaffolding of skills development through provision of iterated writing assignments, workshops, targeted tutorials (e.g. Rolfe, 2011) and/or exemplars to enhance the writing, paraphrasing and citation skills of L2 students. It is not known whether students' self-efficacy regarding their referencing and attribution skills correlates with their actual ability, as our study did not have this level of resolution, and this is therefore an area worthy of future research. In a related study, Flaspohler, Rux, and Flaspohler (2007) showed that collaboration between writing support staff and discipline academics, supplemented by formative feedback and online resources, enhanced student sourcing and use of references in preparing an annotated bibliography.

The apparent caution of L2 students, reflected in a significantly lower increase in their writing skills-related self-efficacy over the course of SCI2010 compared to L1 students, may be the product of various interacting factors. These include underlying differences between the two cohorts (Ramburuth & McCormick, 2001), differences in teaching methods or approaches (Dunn & Wallace, 2006) and differences in L1 and L2 learning styles (Ling, Arger, Filonenko, Chua, & Yin, 2005). This finding aligns with that of Soontiens (2004), who found that L1 students reported greater improvement in their writing skills than L2 students over the duration of an international management subject. These results reinforce the potential role played by the above-stated interacting factors (self-regulation, naivety of academic standards and socio-economic status) in explaining differences among students in their self-efficacy of writing and writing-related abilities. Such differences call for the integration of targeted writing programmes, more accurately tailored to the needs of L1 and L2 students. This would go some way to address the different learning needs of each cohort, and overcome the assumption that one particular teaching approach will suit all students, regardless of demographic location.

The relationship between the increased confidence of L1 students and their higher grades for the LR, but the lack of such a relationship for the AB, may relate to the timing of these respective writing tasks, together with the feedback provided on the AB. Submission of the AB early in semester precluded students from benchmarking their writing and writing-related abilities. However, by the time the LR was submitted, students had received considerable feedback on these abilities. Our findings with respect to the LR align with other literature reporting a positive relationship between student self-efficacy and academic achievement (Cassidy, 2007; Prat-Sala & Redford, 2012). The absence of a correlation for L2 students in our study is consistent with Ong (2015) for Singaporean students, although Badiozaman (2012) reported a strong positive relationship between Malaysian students' self-efficacy and their writing ability. Thus, the relationship between self-efficacy and writing achievement is inconsistent, particularly for different ethnic groups, and may be affected by factors such as the degree to which students "like" a subject (Otunuku & Brown, 2007). These inconsistencies may result from the assignment assessment process, which included specific "writing-skills" criteria, such as the clarity of expression, grammar and punctuation, which were not components of the self-efficacy survey administered to L1 and L2 students. This is an area of potential further study, particularly in enhancing the connection between students' self-efficacy of their writing skills and actual performance for particular writing tasks, as has been previously suggested (Pajares, 2003).

## 5. Conclusions

This study demonstrates that regardless of campus or nationality, Monash University science undergraduates reported a perceived improvement in their writing and writing-related abilities over the course of a core second-year subject. This validates the potential of appropriately structured and contextually aligned subjects to enhance science students' writing-related skills. This study's identification of inherent demographic differences among students regarding their writing and

writing-related abilities needs to be carefully considered in the context of transnational education. The greater increase in self-efficacy of L1 students compared to their L2 counterparts to write a scientific literature review, which is reflected in these students' grades for this written assignment, suggests that greater university support be provided for L2 students in order for them to improve their writing-related proficiencies. To build further on these findings, we call for the development, implementation and evaluation of tailored, iterated writing programmes that will optimise writing skills development outcomes for all undergraduate science students, regardless of their English-speaking ability.

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#### References

- Altbach, P. G., & Knight, J. (2007). The internationalization of higher education: Motivations and realities. *Journal of Studies in International Education*, 11, 290–305. <http://dx.doi.org/10.1177/1028315307303542>
- Andrade, M. S. (2006). International students in English-speaking universities: Adjustment factors. *Journal of Research in International Education*, 5, 131–154. <http://dx.doi.org/10.1177/1475240906065589>
- Badiozaman, A. (2012). *A study on the relationship between Malaysian learners' self-concept in academic writing and their engagement in one higher learning institution* (PhD Thesis). Massey University, Palmerston North.
- Bakalis, S., & Joiner, T. A. (2004). Participation in tertiary study abroad programs: The role of personality. *International Journal of Educational Management*, 18, 286–291.
- Baker, G., & Hawkins, K. (2006). The international student journey. *Australian Universities Review*, 48, 20–25.
- Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university: What the student does*. Maidenhead: McGraw-Hill Education.
- Bong, M. (2008). Effects of parent-child relationships and classroom goal structures on motivation, help-seeking avoidance, and cheating. *The Journal of Experimental Education*, 76, 191–217. <http://dx.doi.org/10.3200/JEXE.76.2.191-217>
- Bong, M., & Skalkvik, E. M. (2003). Academic self-concept and self-efficacy: How different are they really? *Educational Psychology Review*, 15(1), 1–40. <http://dx.doi.org/10.1023/A:1021302408382>
- Bruning, R., Dempsey, M., Kauffman, D. F., McKim, C., & Zumbrunn, S. (2013). Examining dimensions of self-efficacy for writing. *Journal of Educational Psychology*, 105, 25–38. <http://dx.doi.org/10.1037/a0029692>
- Cassidy, S. (2007). Assessing 'inexperienced' students' ability to self-assess: Exploring links with learning style and academic personal control. *Assessment & Evaluation in Higher Education*, 32, 313–330.
- Castle, R., & Kelly, D. (2004). International education: Quality assurance and standards in offshore teaching: Exemplars and problems. *Quality in Higher Education*, 10, 51–57. <http://dx.doi.org/10.1080/1353832042000222751>
- Chae, S. E. (2011). *Contributions of prior knowledge, motivation, and strategies to Korean college students' L2 writing development* (Doctoral Dissertation). University of Maryland. Retrieved April, 2014, from [http://drum.lib.umd.edu/bitstream/1903/12261/1/Chae\\_umd\\_0117E\\_12704.pdf](http://drum.lib.umd.edu/bitstream/1903/12261/1/Chae_umd_0117E_12704.pdf)
- Cheng, Y. -S. (2004). A measure of second language writing anxiety: Scale development and preliminary validation. *Journal of Second Language Writing*, 13, 313–335. <http://dx.doi.org/10.1016/j.jslw.2004.07.001>
- Coe, R. (2002, September 12–14). *It's the effect size, stupid: What "effect size" is and why it is important*. Paper presented at the 2002 Annual Conference of the British Educational Research Association, University of Exeter, Exeter, Devon. Retrieved March 5, 2016, from <http://www.leeds.ac.uk/educo/documents/00002182.htm>
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Daly, A., Leveson, L., & Dixon, P. A. (2011). Separate or integrate? The contribution of the workshop model to effectively embedding generic skills. *Asian Social Science*, 7, 45–51.
- Davis, M. (2007). The role of Turnitin within the formative process of academic writing. *Brookes eJournal of Learning and Teaching*, 2. Retrieved February 5, 2016, from [http://bejlt.brookes.ac.uk/paper/the\\_role\\_of\\_turnitin\\_within\\_the\\_formative\\_process\\_of\\_academic\\_writing-2/](http://bejlt.brookes.ac.uk/paper/the_role_of_turnitin_within_the_formative_process_of_academic_writing-2/)
- Devlin, M., & Gray, K. (2007). In their own words: A qualitative study of the reasons Australian university students plagiarize. *Higher Education Research & Development*, 26, 181–198.
- Dobos, K. (2011). Serving two masters—Academics' perspectives on working at an offshore campus in Malaysia. *Educational Review*, 63, 19–35. <http://dx.doi.org/10.1080/00131911003748035>
- Dunn, L., & Wallace, M. (2006). Australian academics and transnational teaching: An exploratory study of their preparedness and experiences. *Higher Education Research & Development*, 25, 357–369.
- Flaspohler, M. R., Rux, E. M., & Flaspohler, J. A. (2007). The annotated bibliography and citation behavior: Enhancing student scholarship in an undergraduate biology course. *Cell Biology Education*, 6, 350–360. <http://dx.doi.org/10.1187/cbe.07-04-0022>
- Gosset, W. S. (1908). The probable error of a mean. *Biometrika*, 6, 1–25.
- Graham-Matheson, L., & Starr, S. (2013). Is it cheating—or learning the craft of writing? Using Turnitin to help

- students avoid plagiarism. *Research in Learning Technology*, 21. doi:10.3402/rlt.v21i0.17218
- Heckler, N. C., Rice, M., & Hobson Bryan, C. (2013). Turnitin systems. *Journal of Research on Technology in Education*, 45, 229–248.  
<http://dx.doi.org/10.1080/15391523.2013.10782604>
- Heikkilä, A., & Lonka, K. (2006). Studying in higher education: Students' approaches to learning, self-regulation, and cognitive strategies. *Studies in Higher Education*, 31, 99–117.  
<http://dx.doi.org/10.1080/03075070500392433>
- Horwitz, E. K., Horwitz, M. B., & Cope, J. A. (1986). Foreign language classroom anxiety. *The Modern Language Journal*, 70, 125–132.  
<http://dx.doi.org/10.1111/modl.1986.70.issue-2>
- Jones, E. (2008). Predicting performance in first-semester college basic writers: Revisiting the role of self-beliefs. *Contemporary Educational Psychology*, 33, 209–238.  
<http://dx.doi.org/10.1016/j.cedpsych.2006.11.001>
- Kell, P., & Vogl, G. (Eds.). (2012). Transnational student mobility: Introducing new paradigms for researching. In *International Students in the Asia Pacific* (pp. 1–24). Dordrecht: Springer.  
<http://dx.doi.org/10.1007/978-94-007-2897-4>
- Kruger, J., & Dunning, D. (2009). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Psychology*, 1, 30–46.
- Kwan, L. S., & Yunus, M. M. (2014). Cohesive errors in writing among esl pre-service teachers. *English Language Teaching*, 7, 130–150.
- Lawton, W., & Katsomitros, A. (2012). *International branch campuses: Data and developments*. London: Observatory on Borderless Higher Education.
- Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology*, 22, 5–55.
- Ling, P., Arger, G., Filonenko, I., Chua, H., & Yin, C. (2005). Approaches to study: A comparison of Malaysian and Australian students. In *Proceedings of 28th HERDSA Conference*. Retrieved from [http://www.hersa.org.au/wp-content/uploads/conference/2005/papers/ling\\_p.pdf](http://www.hersa.org.au/wp-content/uploads/conference/2005/papers/ling_p.pdf)
- Marginson, S. (2006). Dynamics of national and global competition in higher education. *Higher Education*, 52(1), 1–39.  
<http://dx.doi.org/10.1007/s10734-004-7649-x>
- McBurnie, G., & Ziguas, C. (2006). *Transnational education: Issues and trends in offshore higher education*. Abingdon: Routledge.
- McKenzie, K., & Schweitzer, R. (2001). Who succeeds at university? Factors predicting academic performance in first year Australian university students. *Higher Education Research and Development*, 20, 21–33.  
<http://dx.doi.org/10.1080/07924360120043621>
- Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, 38, 30–38.  
<http://dx.doi.org/10.1037/0022-0167.38.1.30>
- Ong, J. (2015). Do individual differences matter to learners' writing ability? *The Asian Journal of Applied Linguistics*, 2, 129–139.
- Otunuku, M., & Brown, G. (2007). Tongan students' attitudes towards their subjects in New Zealand relative to their academic achievement. *Asia Pacific Education Review*, 8, 117–128.  
<http://dx.doi.org/10.1007/BF03025838>
- Pajares, F. (2003). Self-efficacy beliefs, motivation, and achievement in writing: A review of the literature. *Reading and Writing Quarterly*, 19, 139–158.  
<http://dx.doi.org/10.1080/10573560308222>
- Pajares, F., & Johnson, M. J. (1996). Role of self-efficacy beliefs in the writing of high school students: A path analysis. *Psychology in the Schools*, 33, 163–175.
- Park, C. (2003). In other (people's) words: Plagiarism by university students—literature and lessons. *Assessment & Evaluation in Higher Education*, 28, 471–488.
- Parkinson, J. (2000). Acquiring scientific literacy through content and genre: A theme-based language course for science students. *English for Specific Purposes*, 19, 369–387.  
[http://dx.doi.org/10.1016/S0889-4906\(99\)00012-5](http://dx.doi.org/10.1016/S0889-4906(99)00012-5)
- Patterson, E. W. (2001). Structuring the composition process in scientific writing. *International Journal of Science Education*, 23(1), 1–16.  
<http://dx.doi.org/10.1080/09500690117425>
- Prat-Sala, M., & Redford, P. (2012). Writing essays: Does self-efficacy matter? The relationship between self-efficacy in reading and in writing and undergraduate students' performance in essay writing. *Educational Psychology*, 32, 9–20. <http://dx.doi.org/10.1080/01443410.2011.621411>
- Prosser, M., Trigwell, K., & Taylor, P. (1994). A phenomenographic study of academics' conceptions of science learning and teaching. *Learning and Instruction*, 4, 217–231.  
[http://dx.doi.org/10.1016/0959-4752\(94\)90024-8](http://dx.doi.org/10.1016/0959-4752(94)90024-8)
- Ramburuth, P., & McCormick, J. (2001). Learning diversity in higher education: A comparative study of Asian international and Australian students. *Higher Education*, 42, 333–350.  
<http://dx.doi.org/10.1023/A:1017982716482>
- Rayner, G. (2014). A review of the value of prior learning in first year biology. *International Journal of Innovation in Science and Mathematics Education*, 22, 55–64.
- Robertson, M., Line, M., Jones, S., & Thomas, S. (2000). International students, learning environments and perceptions: A case study using the Delphi technique. *Higher Education Research and Development*, 19, 89–102.  
<http://dx.doi.org/10.1080/07294360050020499>
- Rolfe, V. (2011). Can Turnitin be used to provide instant formative feedback? *British Journal of Educational Technology*, 42, 701–710.  
<http://dx.doi.org/10.1111/bjet.2011.42.issue-4>
- Schunk, D., & Zimmerman, B. (2006). Competence and control beliefs: Distinguishing the means and ends. In P. A. Alexander & P. H. Winne (Eds.), *Handbook of Educational Psychology* (2nd ed., pp. 349–368). Mahwah, NJ: Erlbaum.
- Shi, L. (2012). Rewriting and paraphrasing source texts in second language writing. *Journal of Second Language Writing*, 21, 134–148.  
<http://dx.doi.org/10.1016/j.jslw.2012.03.003>
- Silva, T. (1993). Toward an understanding of the distinct nature of L2 writing: The ESL research and its implications. *TESOL Quarterly*, 27, 657–677.  
<http://dx.doi.org/10.2307/3587400>
- Song, B., & Caruso, I. (1996). Do English and ESL faculty differ in evaluating the essays of native English-speaking and ESL students? *Journal of Second Language Writing*, 5, 163–182. [http://dx.doi.org/10.1016/S1060-3743\(96\)90023-5](http://dx.doi.org/10.1016/S1060-3743(96)90023-5)
- Soontiens, W. (2004). When in Rome: The realities of skill development in an 'Anglo' educational environment. *Journal of Research in International Education*, 3, 301–317.  
<http://dx.doi.org/10.1177/1475240904047357>
- Tran, T. T. T., Baldauf, R. B., & Moni, K. (2013). Foreign language anxiety: Understanding its status and insiders' awareness and attitudes. *TESOL Quarterly*, 47, 216–243.  
<http://dx.doi.org/10.1002/tesq.2013.47.issue-2>
- Vandrick, S. (2009). *Interrogating privilege: Reflections of a second language educator*. Chicago, IL: University of Michigan.
- Volet, S. E., Renshaw, P. D., & Tietzel, K. (1994). A short-term longitudinal investigation of cross-cultural differences in study approaches using Biggs' SPQ questionnaire. *British Journal of Educational Psychology*, 64, 301–318.  
<http://dx.doi.org/10.1111/bjep.1994.64.issue-2>

- Wilkins, S., & Balakrishnan, M. S. (2012). *Student perception of study at international branch campuses: Implication for educators and college managers*. Retrieved from <http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1256&context=dubaipapers>
- Wilson, K. (1997). *Wording it up: Plagiarism and the interdiscourse of international students*. Retrieved April, 2013, from <http://www.herdsa.org.au/wp-content/uploads/conference/1997/wilson01.pdf>
- Woodrow, L. (2011). Transnational graduate education in China: Reflections from a longitudinal study. *International Education Journal: Comparative Perspectives*, 10, 47–60.
- Ziguras, C., & Law, S. (2006). Recruiting international students as skilled migrants: The global 'skills race' as viewed from Australia and Malaysia. *Globalisation, Societies and Education*, 4, 59–76.  
<http://dx.doi.org/10.1080/14767720600555087>



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