PREDICTING INTERNATIONAL STUDENTS’ ACADEMIC SUCCESS WITH VOCABULARY AND INTERCULTURAL COMMUNICATIVE COMPETENCE

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Abstract
In the past few decades, the number of international Chinese students in Higher Education has increased rapidly. Recent studies have found that despite international Chinese students attaining the required language level for entry to courses, they are still facing many difficulties in conducting their academic activities. The aim of the current study is to identify a factor that can better predict international Chinese students’ academic performance in addition to vocabulary knowledge. This study is an attempt to use an interdisciplinary approach to combine a linguistic factor, vocabulary knowledge, with the non-linguistic factor, intercultural communicative competence in explaining performance. The results reveal that intercultural communicative competence can explain over 30% of students’ academic performance at the end of the academic year. It is concluded that when students’ English language proficiency is high, it is the understanding of the culture and the communication with the local people, which is more important in these international Chinese students’ abroad study.

1. Introduction
English is used as a Lingua Franca for global communication cross countries and cultures in many industries, including the education industry. In the past few decades, the number of international students in the Higher Education has increased rapidly in English speaking countries (such as US and UK) as well as in non-English speaking countries (such as Japan). Among these international students, a large proportion are international Asian students and, therefore, these have become the focus of the current study. Given the fact that English is not a native language in many Asian countries such as China and Japan, a certain level of English language proficiency is
often required when international students apply for study abroad and they will be only enrolled into universities once they attain the required language level.

Recent studies have found that even where international students have achieved the required language level for university entry, they are still facing many difficulties in conducting their academic activities (Murray 2010, Yen and Kuzma 2009). Scholars, therefore, are investigating other factors which might explain these international students’ study difficulties. Intercultural communicative competence has been identified as an important factor affecting international students’ abroad experience (van der Zee et al. 2013, van Oudenhoven and van der Zee 2002). This is not the only explanation for variation in learner success, however, and previous studies have found that vocabulary knowledge is an effective predictor of international students’ academic performance. As one single factor, vocabulary knowledge can predict between 20% and 53% of academic success (Daller and Yixin 2016, Masrai and Milton 2017, Roche and Harrington 2017, Townsend et al. 2012).

The current study employs an interdisciplinary method including both a linguistic factor, vocabulary knowledge, and a non-linguistic factor, intercultural communicative competence. It is hoped that the inclusion of intercultural communicative competence can help to make the predictive model based on language proficiency (Daller and Yixin 2016) more complete.

2. Vocabulary knowledge and study success

Characterising vocabulary knowledge can often appear simple, and many researchers use a criterion of whether learners are able to recognize a word’s spelling, pronunciation or its corresponding meaning to decide whether a word is known or not, to provide such a characterisation. The problem with this is that in vocabulary research vocabulary knowledge is considered multi-faceted. It integrates a diverse degree of knowledge. Researchers have developed a number of frameworks via different approaches to account for the construct of vocabulary knowledge. According to a review article by Milton and Fitzpatrick (2013), one approach is the component approach, which tries to list all the traits of vocabulary knowledge. Examples of this include Richards’ (1976) seven assumptions and Nation’s (2001: 99) analytical table. Others describe vocabulary knowledge in a global trait model (Henriksen 1999). Vocabulary knowledge has also been explained from two dimensions (breadth and
Students’ academic success with vocabulary and intercultural communicative competence

depth, Anderson and Freebody 1981; size and organization, Meara 2009), or from three dimensions (breadth, depth and receptive-productive knowledge, Henriksen (1999)). A second approach is a developmental approach, which tends to characterize the parts of word knowledge that learners acquire at different learning stages, such as the Vocabulary Knowledge Scale (VKS) devised by Wesche and Paribakht (1996). A third approach is the metaphorical approach, which attempts to use metaphors to describe the abstract nature of word knowledge, like the use of a ‘web’ of words (Aitchinson 1987: 84) and lexical space (Daller, Milton and Treffers-Daller 2007).

The rapid development of different vocabulary models illustrates the increasing position of vocabulary in modern linguistic studies. There is now a consensus among researchers, language practitioners and English learners that vocabulary knowledge is an important component of language ability and it is strongly connected with overall language proficiency as well as the four language skills: reading, writing, speaking and listening. In the study abroad context, these skills appear to be most important in helping international students to secure a successful degree.

Several studies have employed vocabulary knowledge indicators to predict international students’ academic success and have identified that it can be an effective predictor (Daller and Phelan 2013, Daller and Xue 2009, Elder and von Randow 2008, Harrington and Roche 2014a, 2014b, Masrai and Milton 2018, Roche and Harrington 2013, Sigott 2004, Townsend et al. 2012, Yixin and Daller 2014). In Townsend et al.’s study (2012), two vocabulary measures, an overall breadth vocabulary measure and general academic word knowledge measure, were employed to determine the explained variance in academic achievement. The results showed that overall breadth of vocabulary knowledge explained between 26% and 43% of the variance across outcome measures. An additional 2%-7% variance could be explained by general academic word knowledge. Results from Townsend et al.’s (2012) study further confirm the predictive validity of vocabulary knowledge. Daller and colleagues (Daller and Phelan 2013, Daller and Xue 2009, Yixin and Daller 2014) carried out a series of studies with measures of vocabulary knowledge to predict the study success of international students. The findings show that a combination of vocabulary measures and the C-test score can predict between 23% and 40% of the variance in students’ GPA. Masrai and Milton (2018) carried out a number of studies among 232 Arabic speaking students. Two kinds of vocabulary tests were used in their study, the Academic Vocabulary Size Test (AVST) as a measure of academic vocabulary size.
and the XK-Lex Test as a measure of general vocabulary size. The results show that the AVST is the best predictor, predicting 53% of the GPA. With inclusion of the general vocabulary size, about 55% of the GPA can be explained although they also note that there is a strong frequency element in any well-constructed test which uses Coxherad’s (2000) Academic Word List.

3. Intercultural communicative competence and academic success

Fantini and Tirmizi (2006) define intercultural communicative competence as “a complex of abilities needed to perform effectively and appropriately when interacting with others who are linguistically and culturally different from oneself”. When studying abroad, it is likely that students will come across many things that are different to those they usually experience in their home country. In addition to these general cultural differences, international students will need to adjust themselves to a new academic and living environment. Not all the students will cope equally well with these differences. For students who are unable to adjust to these changes, there is a possibility that their subsequent academic study will be affected, at least to some extent. Therefore there is a need for international students to be aware of the cultural differences between their home country and the destination country.

In the past decade, the idea of integrating cultural teaching into English language teaching has been suggested by many educators, researchers and teaching practitioners (Kiose, Alexiou & Iliopoulou 2019, Lim and Griffith 2016, Moeller and Nugent 2014). It can be seen as an indication of a quality foreign language education. Perhaps reflecting this, ways to assess international students’ intercultural communicative competence have been developed, such as the development of the Multicultural Personality Questionnaire (MPQ) scale (van der Zee and van Oudenhoven 2000: 291-309) and its shorter version, the Multicultural Personality Questionnaire- Short Form (MPQ-SF) (van der Zee et al. 2013: 118-124). Results from empirical evidence suggests that the MPQ scale has a strong predictive power of the adjustment of intercultural students as compared to native students (van Oudenhoven and van der Zee 2002). As a result, the instrument has been used in several studies to predict overseas performance for expatriates and for international students.
In a longitudinal study with two comparative samples of Singaporean undergraduates, where one group attended and one did not attend an international exchange programme, Leong (2007: 545-559) found that the exchange students reported higher ratings on most intercultural dimensions. Van Oudenhoven and van der Zee (2002: 679-694) conducted their study among a sample of 171 students from the International Business School in the Netherlands. Four categories with 1 representing the lowest category and 4 representing the highest category, were used as an indicator of academic performance. Regression analysis was used in the study and the results showed that intercultural communicative competence, as measured by Multicultural Personality Questionnaire (MPQ), explained academic success to a modest extent (7% of the variance).

As linguistic competence can be improved after periods abroad, it is believed that intercultural communicative competence can possibly change over time as well, as a product of the experience of studying abroad (Hoffa 2007, Salisbury 2011, Schartner 2016). Longitudinal data was collected by Salisbury (2011) from a national study of college students to explore the impact of study abroad on intercultural communicative competence. Under rigorous analytic conditions, the study found that study abroad has a statistically significant positive effect on intercultural communicative competence and this effect “appears to be general rather than conditional” (ibid.: 2).

Nevertheless, a number of scholars are more cautious and argue that the acquisition of intercultural communicative competence may not be as straightforward as is assumed. Kramsch (1991: 235) comments that “no conclusive evidence that shows that study abroad per se leads to the cross-cultural understanding or to the development of the cross-cultural personality”. Some studies even found a decline among those with good intercultural development after experience abroad (Masgoret, Bernaus and Gardner 2000, Vande Berg, Connor-Linton and Paige 2009). In Masgoret, Bernaus and Gardner’s study (2000), a group of British language instructors were monitored on their attitudes towards a range of aspects related to Spain, including the country, Spanish people, culture and the language. Results demonstrated that instructors’ attitudes towards Spanish people were less positive than before. There are consistent findings which suggest that personality trait exhibits considerable continuity over time, especially in adulthood (Robins et al. 2001).

Schartner (2016) conducted her longitudinal study on international Masters-level taught students to explore whether intercultural communicative competence can be
improved over a nine-month period of study abroad. It resulted in mixed findings. In Schartner’s study, the Multicultural Personality Questionnaire (MPQ, van Oudenhoven and van der Zee 2002: 679-694) was administered to participants at the beginning and the end of their study. Analysis of the two MPQ scores revealed significant changes in the aspects of IC albeit not in their expected direction. Only Emotional Stability (ES) showed a marginally significant increase, both Cultural Empathy (CE) and Open Mindedness (OM) dropped significantly. No significant difference was found for Flexibility (FL) and Social Initiative (SI). This led her to conclude that “a study sojourn abroad may impact more on the attitudinal / cognitive aspects of IC (CE, OM, ES), as opposed to its behavioural aspect (SI, FL)” (Schartner, 2016: 410).

4. Research methodology

4.1 Aim and research questions

As mentioned before, the purpose of this study is to find a better model to predict the academic success of international students. In Daller and Yixin’s (2016) study, they proposed a predictive model that can explain 28.6% of students’ academic performance as measured by the GPA. In this model the predictors were vocabulary knowledge, as reflected from a C-test and the Guiraud index generated from a piece of writing (GPA = 28.792 + .215 x C-test scores + 2.236 x Guiraud’s index).

To date few academic success studies have combined this factor of intercultural competence with linguistic features to help explain and predict the academic success. The current study, therefore, hopes to combine measures of intercultural knowledge and language vocabulary knowledge to better predict the academic performance of students from abroad studying through English as a foreign language.

Research questions for the current study are:

1. Is vocabulary knowledge, as measured by a C-test and lexical richness measures, a good predictor for predicting academic success?
2. Is intercultural communicative competence, measured by MPQ-SF, a good predictor for predicting academic success?
3. Does intercultural communicative competence, when added to based on the vocabulary knowledge, help to explain more of the variance in GPA scores?
4.2 Participants

There were over sixty international students at a British university who participated in the study conducted at the beginning of the academic year. At the end of the academic year, 18 of them came back for the second part of the test. The population of the participants was composed of both undergraduate and postgraduate students. The average age was 23 years old for participants who attended both testing rounds. All participants were informed of the voluntary nature of the study. Participants were also assured as to the confidentiality of their test results and their final academic results.

4.3 Measures

All tests were piloted before giving them to the participants. In total, three measures were used in the study: a C-test, used as a measure of vocabulary knowledge; a writing task, used to form the basis of several lexical richness analyses; and a Multicultural Personality Questionnaire Short-Form (MPQ-SF, van der Zee et al. 2013), used to measure the intercultural communicative competence.

4.3.1 The C-test

The same C-test used in Yixin and Daller’s (2014) as well as Daller and Yixin’s (2016) studies was used in the current study. It consists of five sub-tests which are arranged according to difficulty. There are 100 gaps giving a maximum score of 100. Participants were asked to complete this test in 25 minutes.

4.3.2 The writing task

The writing task is adapted from practice IELTS materials (Milton, Bell and Neville 2001). Students were asked to produce a written text in 30 minutes on the topic of tourism.

4.3.3 Multicultural Personality Questionnaire Short-Form (MPQ-SF)

The MPQ-SF, used to measure participants’ intercultural communicative competence, consists of 40 questions. Each item is provided with a Likert scale from 1 to 5, with 1 as the least applicable option and 5 as the most. Participants are
required to tick one option among the five. The score range is from 40 to 160 (J.P. van Oudenhoven, personal communication, October 3, 2015), with higher scores indicating that an individual has the ability to effectively navigate personal adjustment, professional effectiveness and intercultural interactions in unfamiliar cultures. After the pilot study, a few minor modifications were made to make the questioning items clearer to understand for current international participants. The instructions were kept the same as in the original questionnaire.

4.3.4 Criterion for academic success - Average Grade Marks
Students’ academic success is defined by whether they have achieved 120 credits after one year’s academic study for both undergraduate and postgraduate master students. The average grade marks (GPA) were calculated to form their academic grades. For MA students, the GPA was calculated from their taught sessions only, excluding the dissertation. The GPA was calculated at the very end of the academic year, to make sure all participants’ final score had been given including those who need to have a second sit.

4.4 Procedures
At the beginning of the academic year, the participants were asked to complete the C-test and the writing task. Eight months later, these participants were contacted again and were asked to complete the same C-test and writing task. In addition, they were asked to complete a MPQ-SF, with no time limitation. All the tests were administered in a pen-and-paper format. Students’ handwritten writings were transcribed to computer in Microsoft Word to allow a computerized analysis with the different measures of lexical richness: Number of Types, Number of Tokens, Guiraud’s index (Types / √Tokens), Guiraud Advanced (GA) (Advanced Types / √Tokens), and the D measure.

In total 6 predictor variables were collected at the beginning of the academic year (C-test, Types, Tokens, Guiraud, GA and D), the first testing round and 7 were collected at the end of the academic year, the second testing round (C-test, Types, Tokens, Guiraud, GA, D and MPQ-SF scores).
5. Data analysis

5.1 Descriptive statistics

Table 1 shows the descriptive statistics for the participants who attended both testing rounds. As is shown from table 1, apart from the D measure, all other measures follow the same direction in that the scores achieved at the end of the academic year are higher than those at the beginning of the academic year. The value of C-test 2 is 7 points higher than C-test 1. Apart from D, the mean parameters from other lexical richness measures are all slightly higher than the mean parameters obtained at the beginning of the year. This presumably indicates that a one-year academic study can improve international students’ vocabulary knowledge.

<table>
<thead>
<tr>
<th>Measure</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-Test 1</td>
<td>18</td>
<td>69.61</td>
<td>11.27</td>
<td>38</td>
<td>89</td>
</tr>
<tr>
<td>C-test 2</td>
<td>18</td>
<td>76.72</td>
<td>8.82</td>
<td>59</td>
<td>92</td>
</tr>
<tr>
<td>W1 Type</td>
<td>18</td>
<td>131.33</td>
<td>38.96</td>
<td>14</td>
<td>196</td>
</tr>
<tr>
<td>W2 Type</td>
<td>18</td>
<td>135.06</td>
<td>29.34</td>
<td>89</td>
<td>191</td>
</tr>
<tr>
<td>W1 Token</td>
<td>18</td>
<td>241.33</td>
<td>77.68</td>
<td>15</td>
<td>375</td>
</tr>
<tr>
<td>W2 Token</td>
<td>18</td>
<td>248.72</td>
<td>63.35</td>
<td>140</td>
<td>358</td>
</tr>
<tr>
<td>W1 Guiraud</td>
<td>18</td>
<td>8.37</td>
<td>1.43</td>
<td>3.61</td>
<td>10.27</td>
</tr>
<tr>
<td>W2 Guiraud</td>
<td>18</td>
<td>8.55</td>
<td>0.90</td>
<td>7.52</td>
<td>10.17</td>
</tr>
<tr>
<td>W1 D</td>
<td>17</td>
<td>79.35</td>
<td>19.49</td>
<td>45.08</td>
<td>118.66</td>
</tr>
<tr>
<td>W2 D</td>
<td>18</td>
<td>77.79</td>
<td>14.53</td>
<td>50.68</td>
<td>113.89</td>
</tr>
<tr>
<td>W1 GA</td>
<td>18</td>
<td>1.35</td>
<td>0.44</td>
<td>0.52</td>
<td>2.17</td>
</tr>
<tr>
<td>W2 GA</td>
<td>18</td>
<td>1.49</td>
<td>0.54</td>
<td>0.70</td>
<td>2.97</td>
</tr>
<tr>
<td>GPA</td>
<td>18</td>
<td>66.00</td>
<td>6.80</td>
<td>49.33</td>
<td>74.83</td>
</tr>
</tbody>
</table>

Table 1: Descriptive statistics for the participants who attended both testing rounds

To find out whether these improvements are significant or by chance, a paired sample t-test is conducted. The results are presented in table 2.
Results from the paired sample t-test (table 2) show that a statistically significant difference in scores \((t (18) = -6.334, p = .000 < .01)\) is only found for C-test 1 \((M = 67.63, SD = 13.941)\) and C-test 2 \((M = 74.89, SD = 11.704)\). No significant difference is found for other measures. Assuming the C-test is a measure of vocabulary knowledge, it is possible to conclude that there is a significant vocabulary increase among these participants through one-year of study abroad.

## 5.2 Correlational analyses

Correlational analyses are conducted between variables and the GPA to explore their relationship with each other. The correlation analyses among the GPA and measures collected in the first testing round (C-test, Types, Tokens, Guiraud, D and GA) are presented in table 3. The correlations between the GPA and measures collected at the end of the academic year (C-test, Types, Tokens, Guiraud, D, GA and MPQ-SF) are presented in table 4.

<table>
<thead>
<tr>
<th>Pair</th>
<th>Paired Differences</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error Mean</td>
<td>95% Confidence Interval of the Difference</td>
<td>Lower</td>
</tr>
<tr>
<td>Pair 1 C-Test 1 – C-test 2</td>
<td>-7.111</td>
<td>5.098</td>
<td>1.202</td>
<td>-9.646</td>
</tr>
<tr>
<td>Pair W1 Type- W2 Type</td>
<td>-3.722</td>
<td>28.138</td>
<td>6.632</td>
<td>-17.715</td>
</tr>
<tr>
<td>Pair W1 Token- W2 Token</td>
<td>-7.389</td>
<td>55.494</td>
<td>13.080</td>
<td>-34.985</td>
</tr>
<tr>
<td>Pair 2 Guiraud 1 – Guiraud 2</td>
<td>-.18004</td>
<td>1.19454</td>
<td>.28155</td>
<td>-.77407</td>
</tr>
<tr>
<td>Pair 3 GA1 – GA2</td>
<td>-.14569</td>
<td>.44804</td>
<td>.10560</td>
<td>-.36850</td>
</tr>
<tr>
<td>Pair4 D1 – D 2</td>
<td>.75882</td>
<td>15.06442</td>
<td>3.65366</td>
<td>-6.98659</td>
</tr>
</tbody>
</table>

Table 2: Paired sample t-test analysis (Listwise) for the data obtained in two testing rounds, n = 17
Table 3: Correlation analysis (Listwise) for the measures at the 1st testing round and GPA, n = 18

<table>
<thead>
<tr>
<th></th>
<th>C-test 1</th>
<th>W1 Type</th>
<th>W1 Token</th>
<th>W1 Guiraud</th>
<th>W1 GA</th>
<th>W1 D</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA</td>
<td>.099</td>
<td>.290</td>
<td>.307</td>
<td>.260</td>
<td>.282</td>
<td>.281</td>
</tr>
<tr>
<td>C-test 1</td>
<td>.063</td>
<td>.190</td>
<td>-.138</td>
<td>.236</td>
<td>.260</td>
<td>-.349</td>
</tr>
<tr>
<td>W1 Type</td>
<td></td>
<td>.974**</td>
<td>.961**</td>
<td>.835**</td>
<td>.384</td>
<td></td>
</tr>
<tr>
<td>W1 Token</td>
<td></td>
<td></td>
<td>.886**</td>
<td>.811**</td>
<td>.120</td>
<td></td>
</tr>
<tr>
<td>W1 Guiraud</td>
<td></td>
<td></td>
<td></td>
<td>.762**</td>
<td>.650**</td>
<td></td>
</tr>
<tr>
<td>W1 GA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.330</td>
</tr>
</tbody>
</table>

Note: 1. ** Correlation is significant at the 0.01 level (two-tailed).
      2. * Correlation is significant at the 0.05 level (two-tailed).

Table 4: Correlation analysis (Listwise) for the measures at the end of the academic year and GPA, n = 18

<table>
<thead>
<tr>
<th></th>
<th>C-test 2</th>
<th>W2 Type</th>
<th>W2 Token</th>
<th>W2 Guiraud</th>
<th>W2 GA</th>
<th>W2 D</th>
<th>MPQ-SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA</td>
<td>.309</td>
<td>.049</td>
<td>.049</td>
<td>.040</td>
<td>.405</td>
<td>.086</td>
<td>.545*</td>
</tr>
<tr>
<td>C-test 2</td>
<td></td>
<td>.293</td>
<td>.236</td>
<td>.305</td>
<td>.546*</td>
<td>-.166</td>
<td>.009</td>
</tr>
<tr>
<td>W2 Type</td>
<td></td>
<td></td>
<td>.945**</td>
<td>.923**</td>
<td>.563*</td>
<td>.338</td>
<td>.222</td>
</tr>
<tr>
<td>W2 Token</td>
<td></td>
<td></td>
<td></td>
<td>.747**</td>
<td>.442</td>
<td>.100</td>
<td>.259</td>
</tr>
<tr>
<td>W2 Guiraud</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.615**</td>
<td>.577**</td>
<td>.136</td>
</tr>
<tr>
<td>W2 GA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.146</td>
<td>.320</td>
</tr>
<tr>
<td>W2 D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.044</td>
</tr>
</tbody>
</table>

Note: 1. ** Correlation is significant at the 0.01 level (two-tailed).
      2. * Correlation is significant at the 0.05 level (two-tailed).
The results show that the correlation coefficients between the C-test and the lexical richness measures are not significant. At the end of the academic year, despite the C-test showing a moderate correlation with the GPA, the correlation coefficient is still not statistically significant. Intercultural competence, as measured by MPQ-SF, shows a significant correlation with the GPA \( (r = .545, p < .05) \), sharing 29.7\% of the variance of the GPA. The relationship between lexical richness measures and the GPA continues to be non-significant.

5.3 Regression analyses

Regression analysis was conducted for the data collected at the end of the academic year. The independent variables are C-test 2, W2 Types, W2 Tokens, W2 Guiraud, W2 D, W2 GA and MPQ-SF. To avoid the multicollinearity issue, the W2 Type and W2 Token which have highly significant correlation with Guiraud \( (r = .935 \) and \( r = .920 \) respectively) are excluded, leaving Guiraud, calculated based on these two measures, in the regression analysis.

With the GPA as the dependent variable, C-test 2, W2 Guiraud, W2 GA, W2 D and MPQ-SF as independent variables, a multiple regression with stepwise method was conducted. A significant model \( (F(1, 16) = 6.765, p < .05) \) was obtained, explaining 29.7 \% \( (R^2) \) of the variance of the GPA. However, scores from the MPQ-SF was the only significant predictor \( (\text{Std. Beta} = .545, p < .05) \) in this model, as shown in table 5. There was no indication for multicollinearity (all values for tolerance are > .02 and all values for VIF < 5).

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>(Constant)</td>
<td>27.132</td>
<td>.283</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPQ-SF</td>
<td>27.132</td>
<td>15.006</td>
<td>.545</td>
<td>1.808</td>
<td>.089</td>
</tr>
</tbody>
</table>

Table 5: Regression analysis (Stepwise) for the measures at the end of the academic year, \( n = 18 \)

Overall, the MPQ-SF was identified as the most reliable predictor at the end of the year, when participants had made a significant increase in vocabulary knowledge. It
alone predicts 29.7% of academic success. The introduction of the C-test and GA can help increase the combined explained variance up to 35.6% and 39% respectively, but neither of them is a significant predictor in the model. However, it has a great predicting potential.

6. Discussion and conclusion
Results from the descriptive statistics and paired sample t-test indicate that participants’ vocabulary knowledge, as reflected from the C-test, have made significant progress at the end of the year. This reveals that the C-test is able to measure a significant increase in vocabulary knowledge throughout a period of time. This period of time refers to a nine-month study abroad.

Research Question 1 asked the question, is vocabulary knowledge, as measured by a C-test and lexical richness measures, a good predictor of academic success? Correlational analysis shows that the C-test does not correlate significantly with the GPA no matter whether the C-test is delivered at the beginning of the academic year or at the end. A variety of lexical richness measures have also been used, drawn from the participants’ written texts, and correlations with international students’ academic success have also been sought. However, as with the predictive value of the C-test in this study, none of the lexical richness measures show a significant relation with the GPA. This is different to previous findings as in, for example, Daller and Yixin (2016) who found significant correlations between vocabulary knowledge and students’ academic success. However, it is worth pointing out that the participants in the present study are highly motivated and their English level is sufficiently high for them to score an average 70 points out of 100 as measured by the C-test. This is much higher than the English level of the participants in Daller and Yixin’s (2016) study in which the participants’ average C-test score is 63 points. As mentioned at the beginning, it is widely understood that academic success is dependent on a range of factors including the language proficiency factor, motivation, personality, financial support and study skills (Bayliss and Ingram 2006, Dooey and Oliver 2002, Feast 2002, Graham 1987). When students have good English language proficiency and high vocabulary knowledge, as shown in the current study, there seem to be other factors that come into play in predicting and explaining academic success. It is therefore reasonable to suggest that the predictive value of the C-test and lexical richness measures in this study will not achieve the values noted in the Daller and Yixin’s (2016) study given
the current participants’ language proficiency. Further, it should be noted that the present study is conducted on a voluntary basis and after participants had secured a place in the university. This is different to the testing environment in Daller and Xue’s study (2009), where tests were administered under strict conditions and participants were worried that the failure of the tests may have impact to their university enrolment. Given the higher level of vocabulary knowledge and English language proficiency of current participants, the C-test and lexical richness measures have not explained as much variance of the GPA as they had in the previous studies. However, the C-test continues to be able to measure the significant increase of participants’ vocabulary knowledge throughout a one-year abroad study. The above answers the first research question.

The second research question asked whether intercultural communicative competence, as measured by MPQ-SF, can predict academic success. At the end of the academic year, after participants’ vocabulary knowledge and English language proficiency has significantly increased, intercultural communicative competence becomes a prominent factor influencing participants’ academic success. Bivariate correlation analysis shows that intercultural communicative competence, as measure by the MPQ-SF, can explain 29.7% of the variance of the GPA on its own at the end of the academic year.

The third research question asked whether intercultural competence measures can increase the explanatory power of vocabulary measures in predicting academic success. However, and as noted above, the C-test and lexical richness measures do not correlate significantly with the GPA in the current study. Results from the regression analysis display the same finding that the MPQ-SF is the only significant predictor that explains 29.7% of the variance of the GPA. Although a combination of the C-test and the MPQ-SF can help to increase the predictive power to 35.6% and a combination of GA and the MPQ-SF increase the predictive power to 39%, these two variables are non-significant in the regression models. Results from the current study reveal that intercultural communicative competence proves to be an important non-linguistic factor that is important to academic success prediction. A combination of vocabulary knowledge and intercultural communicative competence can help to increase the explained variance of the GPA, but the vocabulary knowledge does not appear to be a significant study success predictor in this study.
Different to other measures that were administered at the beginning of the academic year, the MPQ-SF was administered at the end of the academic year when participants’ language proficiency was assumed to have made significant improvement. The results reveal that intercultural communicative competence can be a significant predictor of the GPA. When participants’ language proficiency made significant progress at the end of the year, up to 30% of the variance of the GPA can be explained by the MPQ-SF. Nevertheless, considering that intercultural communicative competence is part of personality trait and there are consistent findings suggesting that the personality generally stays stable during the whole of adulthood, there might not be much difference between collecting the data of MPQ-SF at the beginning of the academic year or at the end of the academic year. As illustrated in the literature that intercultural communicative competence can be improved positively by study abroad (Salisbury 2011), it can also remain the same or show a negative effect (Masgoret, Bernaus and Gardner 2000, Schartner 2016), the current study did not demonstrate whether this competence has a positive or negative effect, or maybe remains the same over a one-year study abroad. Future studies can administer the MPQ-SF to participants at the beginning to examine its predictive validity. However, the predictive validity at the end of the year is a manifestation of its potential predictive power of academic success.

Considering the relatively higher level of participants’ English language proficiency and vocabulary knowledge in the present study, it can be concluded that language proficiency becomes less prominent in affecting international students’ academic success once English language levels are high, but the understanding of the culture and the communication with the local people becomes more important in their abroad study, as the importance of language knowledge diminishes. This is consistent with the findings from other studies that once the English language ability reached a certain level, other factors become more important.

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References


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