

## Why did you choose those readings? A case study in text selection for first year university students.

**Lindsay Neill:** Senior Lecturer, School of Hospitality and Tourism AUT University, Auckland, New Zealand.

**Alison Kirkness:** Centre for Educational and Professional Development AUT University, Auckland, New Zealand.

**Dr. Peter Gossman:** Programme Leader in Professional Development in Higher Education Glyndwr University, United Kingdom.

### Abstract

This paper evaluates the reading and vocabulary demands in five texts used in a first-year undergraduate paper in hospitality management at a multicultural university in New Zealand. There were two research perspectives: the students and the teaching materials. The student perspective investigated the length of time that students have studied in English language environments and their English-language reading abilities; and how this may impact on a student's evaluation of selected texts and student reading time. The second perspective evaluated vocabulary frequency using an electronic vocabulary tool, the Vocabprofile. The two sets of data were then compared. The results revealed that self-assessed reading ability in English related to student first language abilities, and demonstrated that the Vocabprofile can benefit text selection (Laufer & Nation, 1995; Meara, 1993; Meara & Fitzpatrick 2000; Meara, Lightbrown, & Halter, 1997) as well as provide a knowledge base for lecturers scaffolding reading materials. As student vocabulary skills and reading comprehension levels impact on subsequent academic success (Scarcella & Zimmerman, 1998), the comprehensive results of this research will find ready application within the social sciences and more qualitatively focussed domains of student study.

**Keywords:** Academic word list, linguistic diversity, Vocabprofile, text-selection, EAL, EL1

### Introduction

Within ethnically-diverse learning environments where teaching staff focus upon a student-centred approach, the texts used need not only to convey the necessary topic information, but also encourage students to want to read them and to further motivate the students own self-directed reading. The accessibility of the discipline discourse, for students, is an important factor in influencing student engagement with academic reading.

Altman, Ericksen and Pena-Shaff (2006) posit that text selection is a critical process that takes time. The course profile, the paper's learning outcomes, the teaching approaches and the students' own abilities all need to be considered. Within a linguistically diverse student group, it is critical that the selected reading materials are accessible. This concept is applicable to all student minority groups as well as the dominant culture groups (Pincas, 2002).

## Background

Consideration of the student's perspective in text selection is important because the student learner is a newcomer to academe. First-year students can be overwhelmed by both the volume of readings and the vocabulary complexity within them. Asmar (2003) believes that sound lecturing practice incorporates the need to identify and communicate a prioritised recommended reading list to students for their use. If student time is at a premium then a long un-prioritised list may only discourage them completely or foster surface reading of the text material. Because many paper learning outcomes incorporate the adjectives within Bloom's taxonomy (2000, as cited in Anderson et al., 2000) a concurrent rise in reading comprehension and subsequent analysis of text content is expected from students.

Richardson (2004) suggests that 83% of lecturers recognise that weak analytical reading skills contribute toward a subsequent lack of student academic success. Students at all levels have difficulty with synthesising a variety of sources (Qian, 2002; Simpson & Nist, 2002). This may be particularly problematic for first-year students, who are not only coping with the unfamiliar disciplinary discourse, but also with the new environment and its associated academic language.

The comprehension demands implicit within Bloom's (Anderson et al., 2000) taxonomy are further compounded for EAL (English as an additional language) students who often struggle with the cultural and background knowledge that is often assumed to have been mastered by their EL1 peers. Consequently, EAL students may take two to three times longer to read a text (Reid, Mulligan & Kirkpatrick, 1998) than their EL1 (English first language) peers. This deficit may result in EAL students feeling disadvantaged in their understanding of text meaning as a result of their combined linguistic and cultural knowledge deficits (Au, 1998).

## Vocabulary development

Developing vocabulary is an important academic-based practice (Meltzer & Hamann, 2006). Maloney (2003), suggests that lecturers can support vocabulary development for students by helping them with words and phrases that are critical to the understanding of a text, as vocabulary knowledge supports reading comprehension (Anderson & Freebody, 1981; Hazenberg & Hulstijn, 1996; Laufer, 1997; Nation & Waring, 1997). Improvements in vocabulary knowledge can be attributed to an improvement in reading comprehension (Schmitt & Carter, 2000). The reciprocal relationship between vocabulary knowledge and text comprehension is valid for both EL1 and EAL readers (Laufer, 1997).

The enhancement of vocabulary learning is strongly linked to word frequency (Hu Hsueh-chao & Nation, 2000). If students focus on the high frequency words that they do not know but are most likely to meet in a particular text, their reading comprehension can be improved. Students will benefit in gaining familiarity with the first thousand most commonly occurring words in English (called the K1 word list), before the second thousand-word list (K2) (Nation & Gu, 2007). These word lists have developed from earlier studies of word frequency (West, 1953) and the realisation that familiarity with high frequency vocabulary leads to an increase in EAL vocabulary knowledge and reading proficiency (Laufer, 1997).

Academic words used within texts often cause students difficulty, primarily because these words are often discipline specific. The Academic Word List (AWL), identified by Coxhead (2000), consists of 570 word families (e.g. *arrange*, *pre-arrange*, *arrangement*) that occur reasonably frequently in academic texts. These words are normally Greco-Latin words (e.g. *probability*, *conclusion*, *hypothesis*) and comprise approximately 8.5% – 10% of an academic text. The Greco-Latin language base means that learners from European language backgrounds are more likely to be familiar with them (Corson, 1997), but that these words will require a special focus for learners from

non-European language based backgrounds. Knowledge of these words is critical to academic success (Scarcella & Zimmerman, 1998) and without them, students experience difficulty (Cobb & Horst, 2001). Academic words such as *issue*, *problems*, *question*, and *assumption* may be fundamental to the understanding of a text by a student (Nation, 2001) because these words refer to topics already discussed or indicate topics to be discussed in that text.

Cohen, Glasman, Rosenbaum-Cohen, Ferrara and Fine (1988) found that knowledge of technical words in academic texts is not as critical for the comprehension of material as knowledge of academic and non-technical words. The latter can be problematic for the reader because these words convey text meaning (Cohen et al., 1988). Illustrating this, Cohen et al. (1998) found that EAL learners knew less than a third of the words denoting time sequences used in a genetics study (e.g. *eventual*, *perpetual*, *succeeding*). Another source of vocabulary confusion for students can be proper nouns. Schmitt and Carter (2000) found that if the same proper nouns occur frequently, then the vocabulary load is lightened, whereas a text with a wide range of proper nouns can add serious comprehension challenges for students.

If readers know the first two thousand most frequently used words (the K1 and K2 word lists) they will have coverage of 80% of a text (Cobb & Horst, 2001). This understanding is further enhanced by including the AWL, which addition gives readers over 90% text coverage (Nation, 2001). When supplemented by proper nouns, reader coverage rises to 95%. Within this, readers will only encounter one unknown word in every twenty (Hu Hsueh-chao & Nation, 2000). Hirsh and Nation (1992) suggest that for ease of reading 98 – 99% of text comprehension is required; in other words, no more than six to twelve unknown words per page is recommended by them.

Generally, educated EL1 adults have a vocabulary size of around 17,000 base words (Goulden, Nation, & Read, 1990). Such learners enjoy greater comprehension because the more words they know, the fewer encounters they require in order to learn another word (Horst, Cobb, & Meara, 1998). However, the development of vocabulary is affected by the amount of exposure that students receive through their reading (Scarcella & Zimmerman, 1998).

Cohen et al. (1988) found that students who lacked academic word knowledge spent one to two hours reading the same text that took their EL1 peers only 20 minutes. Clearly, the former group did not know enough academic words to guess the meaning of the unknown words and did not refer to a dictionary because this may have been time consuming (Goulden et al., 1990). Parry (1991) suggests that because reading academic texts takes a long time for EAL students they are discouraged from doing it and consequently have less exposure to written academic vocabulary. In other words, EAL students are not able to read in sufficient volume to gain vocabulary in the manner that EL1 speakers might (Cobb & Horst, 2001). Consequently, EAL students may not have enough academic vocabulary to read efficiently (Scarcella & Zimmerman, 1998).

This research considers student perceptions of their reading abilities and compares them with the assessment of vocabulary difficulty using an electronic tool. We asked the following research questions:

- Does the length of time that a student has studied in an English language environment influence their reading ability in the English language?
- Does duration of study using the English language influence a student's evaluation of selected texts and reading time?
- What factors do teachers need to consider when assessing the vocabulary demands of discipline texts with an electronic tool?

## Methodology

A questionnaire, of three sections, was developed and distributed to 103 students undertaking an Introduction to Hospitality Management paper in the first year of hospitality bachelor-level study at an urban, multicultural university in New Zealand. Eighty useable responses were received (77.7%). The first section contained three types of questions:

- closed response for demographic and reading-time information;
- closed response Likert-scale student opinions; and
- free-text responses for additional details that the students may wish to add.

The questionnaire asked the students to identify their first language and to self-assess their English reading ability over the five texts. The second section asked students to report on the length of time it took them to complete the five prescribed readings. Finally, the third section asked students to rate the ease/difficulty for reading each text against four criteria:

- content;
- vocabulary;
- proper names; and
- abbreviations that they noted within the readings.

## Results: Presentation and analysis

Table 1 shows students' ethnic origin and length of time that they had studied using English-language texts.

First language	Years studying			Total
	English			
	0–5	6–10	11+	
English (EL1)	-	1	42	43
<b>EAL total</b>	22	9	6	37
Mandarin (EAL)	12	4	-	16
Korean (EAL)	6	3	-	9
Cantonese (EAL)	-	2	2	4
Other (EAL)	4	-	4	8
<b>Total</b>	22	10	48	80

Table 1: First language of students against number of years studying with English as the medium of instruction.

Self-identified EL1 students were the majority of this cohort. These students reported having studied in an English medium for 11 years or more. Six EAL students had also spent 11 years or more

studying in English.<sup>1</sup> The EAL students who had spent less than 11 years in English-medium education were from diverse cultural backgrounds, primarily Chinese, Korean Japanese, Norwegian, Portuguese and Russian language backgrounds.

Table 2 provides a collation of the students self reported relationship between their self assessed reading ability and the number of years that they have studied in the English language.

<b>English reading ability</b>	<b>EAL</b>	<b>EL1</b>	<b>Total</b>
Excellent	-	21	21
Good	10	18	28
Okay	23	4	27
Weak/very weak	4	-	4
<b>Total</b>	<b>37</b>	<b>43</b>	<b>80</b>

Table 2: EAL / EL1 against self-assessed reading ability in English

The null hypothesis ( $H_0$ ) for the above data is that there is no statistical relationship between the first language of a student and how they assess their reading ability in English. An alternative hypothesis ( $H_1$ ) is that the individual's self-assessed reading ability in English is related to their first language. The calculated chi-square value is higher than the critical value at the 99.9% significance level and therefore the  $H_0$  is rejected. The distribution clearly shows that self-assessed reading ability in English is related to the student's first-language identifier. The majority of EAL students assessed their reading ability as 'okay' compared with a rating of 'excellent' by EL1 students.

Table 3 (on the following page) details the time taken by students to read each of the five texts.

Within Table 3, the higher the score, the harder the students found the reading. For example, for text 1 the score for all students was 1.51, increasing to 2.12 for text 2 and 2.03 for text 3. The average time taken to complete texts 1 to 3 matched the ease/difficulty trend by increasing from 17.48 minutes to 43.85 minutes, although the text-length factor is excluded. For EL1 students the reading time also increased, but the ease/difficulty of texts 2 and 3 were reversed, 2.03 and 1.83 respectively. The data shows that there is an increase in the ease/difficulty score for EAL students over the first three texts. The step up from text 1 to texts 2 and 3 represents a challenge to both groups of students. Interestingly, the six EAL students (who had spent 11+ years studying in English) rated the difficulty level of the five texts similarly to the EL1 students.

<sup>1</sup> Two were speakers of Cantonese and one each of Tongan, Gujarati, Afrikaans and Dutch

	Text number <sup>a</sup>				
	1	2	3	4	5
<b>Mean ease/difficulty score<sup>b</sup></b>					
<b>All</b>	1.51	2.12	2.03	1.94	1.95
<b>EL1</b>	1.43	2.03	1.83	1.82	1.78
<b>EAL</b>	1.61	2.23	2.28	2.09	2.16
<b>Mean reading time (mins)</b>					
<b>All</b>	17.4	32.77	43.8	28.8	28.8
	8		5	1	1
<b>EL1</b>	15.5	29.62	36.6	25.3	25.3
	8		7	4	4
<b>EAL</b>	19.5	36.19	51.4	32.4	32.4
	4		6	0	0

<sup>a</sup> For text 1: n=75, EAL=36 and EL1=39. For text 5: n=63, EAL=30 and EL1=33. The decline in n is due to a fall in numbers of students who completed the later readings.

<sup>b</sup> Range: 1 (quite easy to read) – 4 (very difficult).

Table 3: Students' assessment of reading ease/difficulty and reading time for each of five texts

In correlating the time taken by each student to read each text with the years that they have studied in the English-language medium, a statistically significant result is found. The hypothesis  $H_0$  is that there is no correlation between the two variables and the alternative ( $H_1$ ) is that the time taken to complete a reading increases with the number of years studying in English. For example, for text 2 (n=75) the result of -0.23 was returned, significant at 95% for a one-tailed test with 73 degrees of freedom.

Additionally, the students made comments on the five text readings. When asked what difficulties they had with the texts, 12 students (one EL1 and 11 EAL) specifically mentioned vocabulary, commenting on the number of academic words in English and their range of meanings. When asked to recall any words that they had learnt through the readings, many students focused on new concepts and acronyms such as *MICE* = *meetings, incentives, conventions, exhibitions* (24 comments), *intangibility* – the idea that 70% of the diner's impression of service is intangible – (13 comments) and *brand loyalty* (10 comments). When EAL students were asked if their reading comprehension had improved from their reading of hospitality-management texts, they quoted individual articles that had helped them with particular concepts. Fourteen EAL and ten EL1 students noted that real-life examples were critical to their conceptual understandings. Students also commented on their perceptions of the texts. Three (out of 30 EAL) students reported that the articles were not useful. Of the EL1 students, three out of 34 did not find the articles useful while five reported that they were partly useful, and three noted that the readings lacked sufficient depth. Two EL1 students reported that some of the articles were too hard. Three EL1 students and one EAL student commented that the readings were too long.

Having established the students' perspective of the five texts, the researchers then analysed

the texts using Cobb's (n.d) Vocabprofile. Cobb's (n.d) Vocabprofile is an electronic tool that analyses words by their frequency – namely the number and percentage of K1, K2, academic and off-list words that are present within a text. Off-list words<sup>2</sup> are also noted by the Vocabprofile. Table 4 shows the percentile results from the Vocabprofile for the five texts.

	Text number				
	1	2	3	4	5
<b>Percentage of words on K1 list</b>	79.81 %	68.52 %	67.09 %	72.75 %	77.24 %
<b>Percentage of words on K2 list</b>	7.48%	12.48 %	9.85%	6.24%	6.73%
<b>Percentage of words on AWL</b>	1.28%	8.77%	12.37 %	12.78 %	6.43%
<b>Percentage of off-list words</b>	11.44 %	10.22 %	10.68 %	8.23%	9.60%
<b>Number of words in text</b>	1644	3933	6497	3027	2052

Table 4: Vocabprofile results

Interestingly, EL1 students ranked as the most difficult text to read that with the highest percentage of words on the K2 list (text 2, Table 4). The EAL students ranked text 3 as the most difficult to read, which was the longest and contained a high percentage of AWL words. Consequently, the results from Tables 3 and 4 were used for four correlational tests as shown in Table 5.

	Percentage of K1 words	Percentage of AWL words
<b>Students' assessment of ease/difficulty</b>	Test 1 H <sub>1</sub> is that there is a negative correlation between the two data sets.	Test 2 H <sub>1</sub> is that there is a positive correlation between the two data sets.
<b>Mean reading time</b>	Test 3 H <sub>1</sub> is that there is a negative correlation between the two data sets.	Test 4 H <sub>1</sub> is that there is a positive correlation between the two data sets.

Table 5: Correlations conducted. For all tests the H<sub>0</sub> is that no correlation existed between the two data sets

<sup>2</sup> Usually proper nouns and or industry specific terminology

Table 6 shows the results for both 95% and 90% significance levels (one-tailed). The 90% results are included to show that correlations at this level existed. In fact, all the correlation tests came within 0.075 of the 95% significance level (one-tailed, 0.805). The extent of the correlation is classified as strong if the figure is above 0.8 (a figure of 1.0 would represent a perfect positive correlation). The no-correlation coefficient was below 0.73.

	EL1 students' assessment of text ease/difficulty	EAL students' assessment of text ease/difficulty	EL1 students' reading time	EAL students' reading time
<b>95% significance:</b>				
<b>K1</b>	Not significant (-0.76)	Not significant (- 0.79)	Strong negative (- 0.97)	Strong negative (- 0.96)
<b>AWL</b>	Not significant (+0.73)	Not significant (+0.80)	Strong positive (+0.86)	Not significant (+0.79)
<b>90% significance:</b>				
<b>K1</b>	Negative (-0.76)	Negative (-0.79)	Strong negative (- 0.97)	Strong negative (- 0.96)
<b>AWL</b>	Positive (+0.73)	Positive (+0.80)	Strong positive (+0.86)	Positive (+0.79)

Table 6: The Pearson product-moment<sup>3</sup> correlation

This data supports the position that if a text contains a high percentage of K1 words then it will be easier to read for all students. Conversely, as the percentage of academic words increases, the text is assessed by the students as becoming more 'difficult'. Equally, if a text contains a high percentage of K1 words, students tended to take less time to read it. The reverse is true for the percentage of academic words; more AWL words = a longer student reading time.

## Discussion

This research suggests that students' perception of their reading ability is related to their EAL/EL1 status and further suggests that it takes EAL students a longer time in English-language-medium study before they are confident enough to assess their own reading levels as either 'good' or 'excellent'. This finding is congruent to Cummins' (1983) assessment of cognitive academic-language ability.

This research presents the students' self-assessment of their reading ability as well as their assessment of the ease/difficulty of reading a given text. Both EL1 and EAL students agreed on the direction of ease/difficulty of a text but not on the extent of that ease/difficulty. This can be represented graphically:

<sup>3</sup> The Pearson Product Moment correlation shows the degree of correlation between two variables



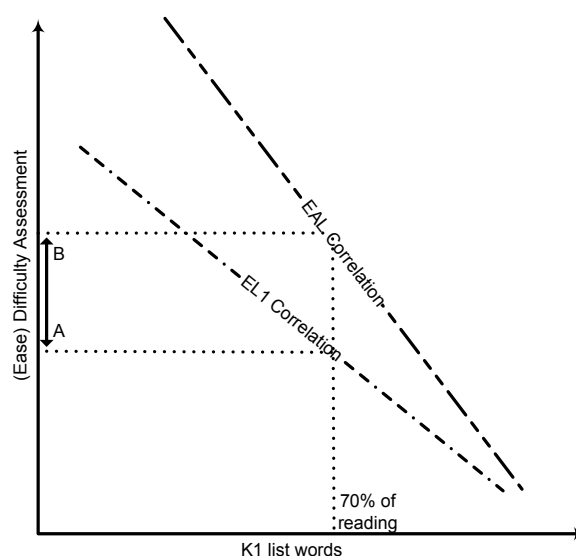


Figure 1: Possible relationship between the percentage of K1 words in a text and student assessment of ease/difficulty of reading that text

Figure 1 illustrates the ease/difficulty of reading a text with 70% of its words on the K1 list for EL1 (point A) and for EAL students (point B). The distance between A and B is the difference in text difficulty as assessed by EAL students. Careful selection, reading sequencing and complementary reading-scaffolding of texts by the lecturer could ensure that difficult words are introduced progressively and that unknown words per page are reduced to a manageable amount (Hirsh & Nation, 1992). Diagrammatically this would be represented by reducing the angle of the slope. This paper previously noted research clearly linking vocabulary knowledge and student academic success (Meltzer & Hamann, 2006; Scarcella & Zimmerman, 1998) and subsequently posits that the Vocabprofile provides a contemporary electronic medium that lecturers can use to scan readings and then structure them into a sequence that becomes progressively more challenging for students.

In the EL1 group, some students found that the texts were too easy while some found them too difficult. This implies that the challenge for the lecturer is not so much within the dynamic of two levels of ability, as the EL1/EAL distinction might imply, but that the differential has less to do with the EL1/EAL differences and more to do with the range of student reading abilities. Zamel (1998) and Snow (1997) suggest that if lecturers cater for the needs of an EAL minority group in the class, then learning will be enriched for everyone. This means that lecturers who cater to the diverse needs of a multi-level group exclude no-one from their reading community and that all learners, both EL1 and EAL, will subsequently benefit.

Learners need eight to ten encounters with a word before it is known by them (Nation & Gu, 2007). For this reason learners require in-depth discussions (both oral and written) on a topic before the discipline discourse becomes more familiar. This is where participating in *wikis* and discussion forums online could be useful. In addition to this, reading guidelines can include word glossaries that guide students toward using academic vocabulary within their formulations, and questions can be compiled to complement text discourse. Clearly, the tension between accessibility of texts and topic sequence needs to be balanced. At worst, a difficult but topic-appropriate reading near the start of a course may discourage student participation. Further research is needed to investigate the role that text difficulty plays in student retention. The Vocabprofile, however, enables a lecturer to monitor students' exposure to academic vocabulary so that they can make decisions about readings based on reliable data relating to vocabulary difficulty. By using the Vocabprofile, lecturers can progressively induct their students into the academic community of readers (Kirkness & Neill, 2009; Kirkness, Roser, Pawson, Wise, & Neill, 2009).

### **Text selection: A matter of topic or language?**

Readings traditionally accompany the topics which determine the sequence of a course, but this may ignore the linguistic demands of the texts themselves. Because language is not only the “goal of education but also the means by which all other educational goals are achieved” (Snow, 1997, p. 292), this research proposes that language and its topic must both be taken into consideration if effective student-centred learning is to take place. Ideally, a course structure would include the complementary concepts of both discipline knowledge and their academic-language expression in equal and considered measure. This research, in conclusion, will identify three key benefits that have emerged via this research.

### **Conclusion**

The Vocabprofile can assist by identifying and quantifying words within K1, K2, and AWL lists, as well as noting which words occur, in which categories and how many times they occur. In the first year hospitality paper where we were studying reading texts, we used a text in everyday language for the students’ first reading, thereby ensuring that they could focus on the cognitive task set (identifying and analysing basic hospitality concepts) rather than on the word difficulty. The Vocabprofile and the ‘ease/difficulty’ assessment revealed the appropriate placing of Reading 1. The tool therefore provides a strong guide for how to sequence readings and may enable lecturers to support their students’ induction into the academic reading community. This research therefore firstly recommends that the use of the Vocabprofile be adopted as a seminal tool in text evaluation to assist lecturing staff in their assessment of both existing and proposed reading texts for students.

Secondly, this research posits that it is the special responsibility of lecturers engaged in the delivery of firstyear papers to ensure that first year students are not overburdened by these readings. Firstyear students need gradual induction into academic reading, sequenced in progressively more demanding steps.

Our third recommendation is that scaffolding strategies need to be used if the content demands a sequence which cannot gradually increase language difficulty. In these circumstances we recommend that lecturers provide reading guidelines and vocabulary scaffolding via a glossary of terms relevant to the paper’s content that will make a difficult text more accessible. As researchers we do not suggest that lecturers should simplify texts to achieve this because, and as Nation (2001) notes, simplifying vocabulary often results in more difficult grammar.

This research advocates that greater awareness by lecturers of the linguistic demands of their texts will be rewarded within the community of learners when lecturers incorporate a very simple step: the use of the Vocabprofile to assess all first year readings.

(All correspondence to: Lindsay Neill, School of Hospitality and Tourism, Auckland University of Technology, [lindsay.neill@aut.ac.nz](mailto:lindsay.neill@aut.ac.nz).)

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