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Foreword

Welcome to the Summer issue 2013 of *The Asian ESP Journal*!

We are happy to publish six articles that cover a range of research topics contributed by authors from Iran, Thailand, Taiwan, Saudi Arabia, the United Kingdom, and the United States of America, namely:

1. An analysis of lexical bundles in research article abstracts by Iranian and native English-speaking authors of applied linguistics articles, by Hesamoddin Shahriari Ahmadi, Behzad Ghonsooly and Azar Hosseini Fatemi
2. EFL online learning versus classroom learning by Thai students, by Payung Cedar
3. Students' and an ESP teacher's views on industry-academia cooperation: Co-teaching a business English course, by Yu-Hsiu Huang
4. An investigation into the errors in English writing of L1 Arabic ESP learners, by Andrew Milewski
5. Is there an "Applied Linguistics" vocabulary? Questioning disciplinary delineation in EAP wordlist construction, by Colin Sage
6. Graphic Novels 2.0: Meaning-making in a multimodal era, by Tuan Truong

I hope you will enjoy reading the papers and recommend them to your colleagues and students to further disseminate the findings and enhance the impact of the research studies.

Last but not least, I would like to take this opportunity to express my heartfelt gratitude to the professional contribution of our Associate Editors and Academic Editors* whose quality review work has made the current issue possible. I also wish to thank our proof readers for their great work!

Chief Editor

The Asian ESP Journal

Winnie Cheng

The Hong Kong Polytechnic University

egwcheng@polyu.edu.hk

* Details about our Associate Editors, Academic Editors and proof readers can be found on the Editorial link on

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An Analysis of Lexical Bundles in Research Article Abstracts by Iranian and Native English-speaking Authors of Applied Linguistics Articles

Hesamoddin Shahriari Ahmadi, Behzad Ghonsooly and Azar Hosseini Fatemi

Ferdowsi University of Mashhad, Iran

Biodata

Hesamoddin Shahriari Ahmadi is an assistant professor of applied linguistics at the department of English, Ferdowsi University of Mashhad. His chief research interests include second language writing, EAP and corpus linguistics.

Behzad Ghonsooly is a professor in applied linguistics. He teaches at the department of English, Ferdowsi University of Mashhad. His research interests are ESP and language testing.

Azar Hosseini Fatemi is an assistant professor in TEFL and the head of the department of English at Ferdowsi University of Mashhad. Her areas of interest include issues in second language teaching and learning.

Abstract

Given the importance of effective communication among members of various academic disciplines, the research article has gained immense popularity among linguists, hoping to inform academic writing instructors and advanced EFL/ESL writers with the results of their

analyses. This study hopes to achieve a similar goal by analyzing research article abstracts in terms of the frequency and function of lexical bundles. A corpus of 200 research article abstracts by Iranian authors in the field of applied linguistics was compared to a similar corpus of abstracts by native English-speaking authors. The results reveal that Iranian authors use more 4-word lexical bundles in their writing compared to their native speaker counterparts and often use these bundles for achieving specific genre moves. A linguistic analysis of the bundles also shows that the lexical bundles found in the Iranian corpus included more clausal elements and subordination, while native speaker bundles were more phrasal in nature.

Keywords: lexical bundles, multiword expressions, corpus linguistics, research articles, abstracts

1. Introduction

University students, coming from both native- and foreign-language backgrounds, are expected to use the English language in ways differing from that which they had encountered during their high-school education or EFL courses. The process of adapting to a hitherto unfamiliar register can pose difficulties for students. For the EFL student, in particular, these problems are compounded by the additional complexities involved in mastering the language itself. In most cases, graduate students are required to write and publish academic research articles without having received the necessary training for the task. As a result of this shortcoming, it is important for researchers and practitioners in the field of EAP to investigate the features of academic writing and the variables contributing to the successful composition of research articles acceptable to members of their respective scientific communities.

Pawley and Syder (1983) maintain that the knowledge of a body of lexicalized sentence stems is what distinguishes highly proficient speakers of a language from less advanced learners. In addition to improving the quality of second language production, formulaic sequences have been shown to provide second language learners with a facilitated means of becoming communicative (Schmitt & Carter, 2004). That is to say, through the use of prefabricated lexical patterns, speakers and writers of a second language can perform their intended linguistic functions in a quick and easy way, and more easily integrate themselves into a peer group. In Iran, English is the language of communication for a number of university majors, especially the field of English language studies. This also holds true for students seeking to improve their academic writing proficiency; that is, graduate students for whom English is not a native language could potentially make use of prefabricated lexical sequences in order to attain higher levels of proficiency and to gain membership in the academic discourse community of their field by publishing their research findings. However, it is necessary for researchers to determine how advanced writers of a field are currently making use of formulaic strings in their writing, and also how these lexical sequences differ from those used by professional, published writers.

In Iranian universities, students of Applied Linguistics use English as the predominant language in textbooks, classroom lectures and discussions. Furthermore, university entrance exams include general language proficiency items, which guarantee the admission of students who are more advanced in terms of their general English language proficiency. However, despite their advanced level of communicative skills in English, students still struggle when it comes to assignments involving academic writing. Therefore, it should be determined whether using formulaic sequences could improve the academic writing quality of these students. One

possible way of answering this question is by comparing texts by advanced Iranian writers of Applied Linguistics with internationally-published writers of the same field, and considering how these two groups differ in their use of prefabricated lexical sequences. Assuming there is a continuum of proficiency in academic writing, it would be extremely useful for us to locate where advanced learners currently stand along the continuum and what the gaps which need to be bridged are so that they could achieve more efficient writing skills. This is by no means a simple task, because differences between the written output of advanced Iranian writers and the norms established within the register cannot be referred to as mistakes or errors, and should rather be viewed as deviations from the norm. These deviations are very difficult to single out by relying solely on one's intuition. Corpus-driven approaches to linguistic analysis are one way researchers can circumvent this problem. Instead of relying on intuitions regarding the nature of language, the corpus-driven approach to linguistic analysis relies on empirical data to answer language-related questions. The applications of corpus-driven research are numerous, and for these reasons, in the present study we have opted for such an approach in order to fulfill our primary objectives, which are described below.

The present study has two main objectives. First of all, using a corpus-driven methodology, it seeks to determine whether formulaic language, in the form of lexical bundles, does in fact play a role in the academic writing of a group of advanced Iranian L2 writers of English. This aim is achieved through the analysis of a corpus of Applied Linguistics research articles by Iranian writers. The second aim of the study is to determine how the identified lexical bundles differ from those employed by internationally published writers, most of whom use English as their native language. For this purpose, a parallel corpus consisting of research articles by native English speakers appearing in internationally-

accredited journals of Applied Linguistics was analyzed and the discovered bundles were compared with those found in the writing of Iranian writers in terms of frequency, structure and function. The findings of this study will inform us about how native and advanced non-native writers of a specific register differ in their use of pre-fabricated lexical strings. These results would be of use to academic writing instructors who wish to help their students write texts of higher quality by filling in the existing gaps between their current state of writing and that of professional, published writers. In the following section of this paper, the impetus underlying the use of corpus methodology, as well as the nature and definition of lexical bundles along with a summary of studies conducted on this unit, will be discussed in detail.

2. Review of related literature

2.1 Lexical bundles

In studying multiword expressions, some scholars have chosen a purely frequency-based approach (Altenberg, 1998; Butler, 1997; Biber et al., 1999). Biber and Conrad (1999) make use of a frequency-driven approach, analyzing the most frequently recurring sequences of words or extended collocations. They chose the term ‘lexical bundles’ to refer to combinations of words that occur repeatedly with a relatively high frequency within a given register. Unlike idioms that are non-compositional, lexical bundles are semantically transparent and, in most cases, their meaning can be understood from their components. Another difference between idioms and lexical bundles is that the latter are far more frequent in discourse. However, lexical bundles are not always complete in structure. Following this landmark study, the lexical bundle analysis framework was adopted by other researchers, such

as Partington and Morley (2004), Hyland (2008), Crossley et al. (2011), and Wei and Lei (2011).

Lexical bundles have also been used for comparing texts written by learners and authors coming from different language backgrounds. Cortes (2004) compared students' use of lexical bundles with patterns of use among published authors in the field of history and biology. The results of this study showed that students did not use lexical bundles as frequently as professional authors of the field, and in instances where the bundles were actually employed no correspondence was found between the patterns of use. Wei and Lei (2011) compared four-word lexical bundles across a corpus of doctoral dissertations by advanced Chinese EFL writers and published research articles by professional writers. They, however, found that advanced learners generally used bundles more frequently and with greater range. In another cross-linguistic comparative study, Chen and Baker (2010) used an automated frequency-driven method to compare lexical bundles in a corpus of published academic texts and a corpus of student academic writing. Learners were also observed to generally use a narrower range of lexical bundles, and at times overuse certain expressions hardly seen in the corpus of professional academic writers.

2.2 Classification of lexical bundles

Biber (2006) identifies three types of lexical bundles. The first type includes verb fragments, beginning with a subject pronoun followed by a verb phrase (e.g. *I'm not going to*), a verb phrase, without a pronoun (e.g. *is going to be*), and a question fragment (e.g. *does that make sense*). Bundles beginning with discourse markers followed by a verb phrase (e.g. *you know it was*) and a question fragment (e.g. *I mean don't you*) are also categorized under this category.

The second type of bundle is characterized by verb phrase elements incorporating dependent clause fragments. These often include a complementizer following a main clause (e.g. *I don't know why*) or a WH-word presenting a dependent clause (*what I want to*). Dependent clause fragments starting with a complementizer or subordinator (e.g. *that it is a, as we will see*) also form Type 2 bundles. Finally, the third category involves phrasal components (noun phrase components often ending in a post-modifier, e.g. *the way in which*), prepositional phrase component with modifiers (*at the end of*) or incorporating comparative expressions (*as well as the*). Academic prose mostly incorporates phrasal lexical bundles (Biber, 2006).

2.3 Previous studies on lexical bundles

Lexical bundle research has been carried out in both L1 and L2. In L1, studies have mostly identified bundles, describing their patterns of use across different registers (Biber et al., 1999; Biber & Conrad, 1999) and determining the discourse functions served by bundles in different texts (Cortes, 2004). Previous studies have also attempted to compare native and non-native English speakers and writers in terms of the characteristics of the lexical bundles they use. One group of studies has shown that there appears to be a difference between the two groups in terms of the overall number of bundles used (Erman, 2009; Howarth, 1998; Adel & Erman, 2012). A second group of studies shows that in addition to the difference in frequency, native and non-native users of English also differ with regard to the variety of bundles they use in their writing (Granger, 1998; Lewis, 2009). De Cock (2000) found that L2 users of English generally lacked awareness when it came to more common, yet less salient, L2 bundles, and often relied on L1 transfer to make up for their unawareness. L1 transfer occurred either through the modification or avoidance of forms which did not have an L1

equivalent. In the case of constructions where there was no match between L1 and L2, students commonly misused the L2 form. On the other hand, L2 users exhibited a tendency towards overusing those set of constructions with shared L1 equivalents.

Lexical bundles have been shown to frequently appear in academic registers. The frequency with which bundles are seen, however, depends on the size of the corpus and the number of words constituting the bundle. Biber et al. (1999) found that in academic texts, bundles consisting of three words occurred over 60,000 times and 4-word bundles appeared more than 5,000 times per million words. Although most words in a given text did not appear in recurrent combinations, almost 21% of the academic sub-corpus of the Longman Corpus of Spoken and Written English occurred in frequent bundles, some occurring at over 200 times per million words.

Considering the important role of lexical bundles in academic writing and the familiarity of competent writers of this discourse with a variety of these units (Hyland, 2008), attempts will now be made to compare and contrast instances of academic writing composed by Iranian authors writing in English with that of their native-English-speaking counterparts in terms of the lexical bundles employed and their respective frequency. This study will compare the two groups of writers within the register of applied linguistics research article abstracts. Through this attempt, we hope to reveal the frequency and category of bundles characterizing article abstracts by both groups of academics. Research carried out on lexical bundles in academic writing have commonly analyzed the research article in its entirety and have rarely zoomed in on a discipline in particular, let alone a single section of the article (i.e. the abstract). The findings, in addition to providing insights into the nature of how lexical bundles are used by authors from different linguistic backgrounds, could potentially guide

academic writing instructors on what forms of prefabricated patterns and phrases to highlight in their syllabi and in the course of their classes.

3. Method

3.1 The corpus

The corpus used in this study consisted of 400 research article abstracts from the field of applied linguistics. The corpus was equally divided into two sub-corpora. The first sub-corpus consisted of 200 abstracts written by authors for whom English was a native language (NS), and the second sub-corpus was comprised of the same number of abstracts by Iranian authors, writing in English as their second language (INNS). The sample of texts in the NS corpus was randomly selected from four established journals, namely *Applied Linguistics*, *TESOL Quarterly*, *English for Specific Purposes*, and *Journal of Second Language Writing*. The second group of abstracts were taken from papers published in accredited journals published inside Iran; these journals were *Journal of Teaching Language Skills*, *Iranian Journal of Applied Linguistics*, *Iranian Journal of Applied Language Studies*, and *Research in Foreign Languages*. An equal proportion of article abstracts were taken from each of the journals specified above. Table 1 below shows the details of the corpus used in this paper.

Table 1: Details of sub-corpora used in the analysis

Journals	(NS)	Journals	(INNS)
<i>Applied Linguistics</i>	50	<i>Journal of Teaching Language Skills</i>	50
<i>TESOL Quarterly</i>	50	<i>Iranian Journal of Applied Linguistics</i>	50
<i>ESP Journal</i>	50	<i>Iranian Journal of Applied</i>	50

<i>Journal of Second Language Writing</i>	50	<i>Language Studies Research in Foreign Languages</i>	50
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The NS sub-corpus consisted of 34,471 word tokens and 4,509 word types (the type-token ratio for this sub-corpus was 0.13), while the INNS corpus of abstracts consisted of 32,311 word tokens and 4,399 word types (the type-token ratio for this sub-corpus was also 0.13).

3.2 Procedure

The compiled corpus was analyzed using AntConc 3.3.0, a freeware concordance program developed by Laurence Anthony at the Center for English Language Education in Science and Engineering (CELESE), Waseda University (Japan). The N-gram function of this software was used to identify existing lexical bundles in each corpus through an empirical analysis. Our adopted definition of lexical bundles is borrowed from Biber et al. (1999), who define them as the most recurrent multi-word sequences in a given register. The study focused on units consisting of 4-word sequences. According to Hyland (2008), 4-word bundles are more common than 5-word bundles and usually represent more clear structures and functions than 3-word bundles, but he also admits that the cut-off points for bundles is quite arbitrary. The frequency cut-off used for the identification of bundles in this study was a minimum of 5 attestations. Since the two corpora in the analysis were of the same size (each including 200 texts), there was no need for norming. This criterion is believed to result in more bundles and to better suit the exploratory nature of this study. In order to avoid idiosyncratic expressions by individual authors, it was agreed that a sequence would have to appear in at least 5 different texts to be included into the analysis.

The lexical bundles found during the course of this investigation often do not represent complete structural units. Rather, they are mostly bridging elements, linking two structural units (i.e., phrases or clauses) to each other. The relatively high frequency with which these bundles recur in the corpus reveals that they are most likely stored and used as pre-fabricated linguistic patterns. As a result, even though the identified bundles did not always constitute a whole structural unit, they could be used as an index for determining the degree to which authors use the formulaic principle to form their utterances.

4. Results and Discussion

4.1 Extracted lexical bundles

The analysis of N-grams of 4-word clusters generated a list of lexical bundles. The NS corpus contained 18 bundles, while the INNS corpus consisted of 41 bundles. The most frequently recurring bundle in the NS corpus was *this paper reports on*, occurring 12 times. Following this, the most frequent bundles in this sub-corpus were *paper reports on a*, *in the use of*, and *the extent to which*, with 9, 8, and 8 occurrences, respectively. On the other hand, in the INNS corpus, the most frequently repeated lexical bundle was *the results of the*, occurring 17 times, followed by *the purpose of this*, *as a foreign language*, and *English as a foreign*, each with 11 instances. None of the top-ten most frequent lexical bundles in either one of the two corpora was shared by the other. In fact, the only lexical bundles common between the two lists were *of English as a*, *as a foreign language*, and *the results of the*. The first two of the common bundles constitute various four-word combinations in the phrase *English as a foreign language*, which is an expectedly common phrase in the field of applied linguistics. The bundle *the results of the* shows that the authors in both groups used this bundle to discuss the

findings of their study in brief in their abstracts. Some of the bundles in the INNS sub-corpus (e.g. of Iranian EFL learners) were obviously repeated as a result of the common subject areas investigated by Iranian authors. Table 2 below provides a list of the 4-word lexical bundles along with their frequency and the number of texts in which they appeared. The lexical bundles common between the two corpora have been presented in bold.

Table 2: Most frequent 3- and 4-word lexical bundles found in the two sub-corpora

Corpus of Abstracts by Iranian Authors (INNS)		Corpus of Abstracts by Native Speakers (NS)			
Bundles	Frequency	No. of Texts	Bundles	Frequency	No. of Texts
The results of the	17	14	This paper reports on	12	12
The purpose of this	11	9	paper reports on a	9	9
as a foreign language	11	8	in the use of	8	7
English as a foreign	11	8	the extent to which	8	8
findings of the study	10	6	the use of English	8	6
significant difference between the	9	9	the ways in which	7	5
The results indicated that	9	8	a wide range of	6	5
of the present study	8	8	in terms of the	6	5
of this study was	8	8	in the field of	6	6
The findings of the	8	6	the results of a	6	6
of Iranian EFL learners	7	6	The results of the	6	6
of the study revealed	7	7	as a foreign language	5	7
purpose of this study	7	6	discussed in terms of	5	5
results of the study	7	7	It was found that	5	5
this study was to	7	7	of English as a	5	5
The analysis of the	7	5	reports on a study	5	5
aim of this study	6	6	the role of the	5	5
revealed that there was	6	6	This study investigated the	5	5
study was to investigate	6	6			
that there was a	6	6			
the Iranian EFL learners	6	5			
The purpose of the	6	6			
results of this study	6	5			
The results showed that	6	5			
as a result of	5	5			
divided into two groups	5	5			

investigate the effect of	5	5		
is an attempt to	5	5		
no significant difference between	5	5		
of English as a	5	5		
of the study are	5	5		
of this study is	5	5		
that there is a	5	5		
The results revealed that	5	5		
the study are discussed	5	5		
the study revealed that	5	5		
This paper reports the	5	5		
this study is to	5	5		
to investigate the effect	5	5		
was to investigate the	5	5		
was used to analyze	5	5		

4.2 Structural classification of lexical bundles

The identified lexical bundles were consequently classified into one of three main categories introduced by Biber et al. (1999). As is characteristic of academic prose and the research article register, in both sub-corpora, the majority of bundles were phrasal. From the list of bundles found in the INNS corpus, 19 were phrasal; on the other hand, 12 phrasal bundles were observed in the NS corpus of abstracts. The second most common type of lexical bundle in the INNS corpus was the verb phrase element followed by a dependent clause (12 instances); this category of lexical bundles was only found once in the NS sub-corpus. Finally, 5 lexical bundles in the NS corpus and 7 in the INNS corpus were verb phrase fragments, either with or without a preceding subject. Table 3 below shows the number and percentage of the different categories of bundles in the analyzed corpora.

Table 3. Types and categories of lexical bundles in the two corpora

	Verb Phrase Fragments		Verb Phrase Elements + Dependent Clauses		Phrasal Components	
	N	Percentage	N	Percentage	N	Percentage
NS Corpus	5	27.7%	1	5.5%	12	66.6%
INNS Corpus	7	46.3%	12	29.2%	19	17%

4.3 Functional classification of lexical bundles

Bhatia (1994) suggests that research article abstracts provide readers with information about various aspects of the research article, including what the author did during the study; how it was done; what the author discovered; and what conclusions were drawn from the findings. Just like other sections of the research article, the abstract consists of a number of steps and moves. Bhatia (1994) found that the genre of research article was comprised of four moves: *Introducing the purpose*, *Describing the methodology*, *Summarizing the results*, and *Presenting the conclusions*. A functional analysis of the lexical bundles shows that in both Iranian (16) and native-speaker (4) abstracts, the largest number of bundles was used to introduce the purpose of the study. A number of examples of such bundles in context are provided below:

The purpose of this study was to explore the factors that influenced... (NS Corpus)

The purpose of this paper is to show that research orientation... (NNS Corpus)

The second most common function for the lexical bundles found was summarizing the results and presenting the conclusions. Sixteen bundles in the INNS corpus and four bundles in the

NS corpus were used for these functions. These two functions are very similar in nature and tend to overlap in terms of the linguistic features and lexical bundles they possess. For instance, the exact same lexical bundle could be found serving both functions in two different abstract corpora. In the examples below, the lexical bundle *findings of the study* is used to summarize the results in the first sentence and to present the conclusions of the study in the second.

The **findings of the study** revealed no significant relationship between... (NNS Corpus)

The **findings of the study** prove that language planning is ideologized... (NNS Corpus)

Finally, the least number of lexical bundles in either corpus was devoted to describing the methodology of the study. The NS and INNS sub-corpora had 2 and 1 bundles devoted to this function, respectively. The bundle *in terms of the* is commonly used for presenting the conclusions of the study, as follows:

...instances of interactional trouble are identified and discussed **in terms of the** teachers' elaboration of some routine features... (NS Corpus)

...These findings are discussed **in terms of the** participants' local concerns... (NS Corpus)

The greater number of lexical bundles found in the INNS corpus confirms the findings of other studies which have also discovered that advanced writers in English as a second/foreign language tend to overuse lexical bundles in their academic writing compared to professional authors for whom English is a native language (Cortes, 2004; Hyland, 2008; Wei, 2007; Pang, 2009; and Wei & Lei, 2011). Various studies have shown that some non-native speakers tend to use certain formulaic sequences frequently and repetitively, because they view them as

reliable 'safety nets' which can be confidently used, especially at times of uncertainty (De Cock, 2000; Granger, 1998). In other words, lexical bundles could be viewed as a form of compensation strategy for non-native writers of English.

Another interesting finding of this study was that most of the lexical bundles found in the INNS corpus were clearly used for achieving one of the abstract moves, while a considerable portion of bundles in the NS corpus (e.g. *in the use of*, *the extent to which*, *the ways in which*, etc.) did not belong to any particular move and could generally be used for various purposes. This gives further plausibility to the previous claim that the use of lexical bundles in the writing of advanced learners may be a learning strategy, by means of which learners can achieve the move structure of any given genre more easily and with greater clarity. These lexical bundles function as 'genre frames', serving a dual purpose: First, they assist writers in more easily fulfilling genre expectations (e.g. introducing the purpose of the study, summarizing the results) and adding to the clarity of the passage, just as discourse markers enhance a reader's comprehension of a text. Second, they reduce the cognitive load imposed on writers by providing ready-made sequences stored as prefabricated units of language.

The classification of lexical bundles based on Biber et al.'s (1999) taxonomy revealed that Iranian writers used considerably more verb phrase fragments and verb phrase elements followed by dependent clauses. Biber et al. (2011) claim that clausal subordination is more commonly observed in academic conversation compared to academic writing, which tends to include more noun phrase constituents and complex phrasal structures. According to these findings, Iranian EFL writers, despite their high level of proficiency and expertise as specialists in the field of applied linguistics, tend to write in an academically conversational

style, depending heavily on clausal elements and subordination. This finding is quite natural, since academic writing, with its reliance on extended noun phrases and limited use of verbs, is quite counterintuitive and can only be seen in the academic writing register, which strives for greater brevity and density, conveying more information in fewer words.

5. Conclusion

This study investigated the use of 4-word lexical bundles in research article abstracts written by native English speakers and Iranian EFL writers in the field of applied linguistics. Through a corpus-driven approach to linguistic analysis, the two groups of abstracts were compared in terms of the number, type, and communicative function of lexical bundles with reference to the move-structure of research article abstracts. Results showed that advanced writers tend to use more multi-word expressions in their writing, and also more commonly employ those expressions for serving specific genre expectations. Writing instructors can use the findings of this study to further emphasize the role of lexical bundles for their students, explaining to them the various ways these prefabricated language patterns can be used to achieve moves and steps, consequently aiding target readers in understanding their passage and heightening their chances of publishing their work in accredited journals. Future studies can identify more lexical bundles used in different academic disciplines and construct an inventory of lexical bundles, used as genre frames. Such an inventory would most certainly be of great interest to academic writing instructors and advanced EFL writers alike.

The more prominent use of clausal fragments and subordination in abstracts by Iranian authors is interesting, since it is different from native speaker norms in academic writing and more closely resembles academic speech. Other written registers of English, such as fiction

and journalistic texts, are different in that they use more extensive subordinate clauses and rely less on noun phrases and nominalizations. The fact that abstracts by Iranian authors in this study did not highlight noun phrase structures as in the case of native speaker abstracts could possibly mean that Iranian writers, despite their relatively high level of proficiency as published authors in the field of applied linguistics, were still on a developmental path, moving from a general formal writing style towards the academic writing register.

The findings also have implications for writing instructors active in the field of English for Academic Purposes (EAP). According to frequency models of language learning, phraseological units are learned probabilistically and as a result of strengthening associations among co-occurring words (Ellis, 2002). The more frequently a learner is exposed to particular bundles, the higher the chances are for that learner to produce the bundles in speech or writing. This linear relationship between exposure and output is often times affected by L1 background. If a bundle shares an equivalent in the L1, the probability of its use will increase. As previously discussed, the proclivity towards extended noun phrase elements in the academic writing register is unnatural in that it is rarely seen in other registers. It is also very uncommon for other languages (in this case, Farsi) to follow such a trend; hence, learners, even those at advanced proficiency levels, find it counterintuitive and avoid using bundles representing noun phrase elements. As a result, it is recommended that EAP teachers and academic writing instructors create necessary awareness and improve the quality of academic writing by exposing learners to high-frequency phrasal bundles used by native speakers.

The relationship between the lexical bundles found in this study and their functioning as genre-frames could also be of great instructional value. Since bundles such as *the purpose of this* are immediately associated with a particular move in abstracts, we could also

consequently claim that readers encountering this bundle in an abstract would also more readily identify its aim. Therefore, it is clearly an advantage for any writer to make use of high-frequency bundles belonging to a specific genre move. Lexical bundles, as other multiword expressions, are known to be stored holistically. This results in quicker accessibility and easier processing (Vogel Sosa & MacFarlane, 2002). Not only will this allow the writer to communicate the intended message more efficiently and with greater ease, but it would also make it easier for the reader to grasp the writer's intention. Future studies could possibly look into the frequency and function of lexical bundles used by learners/writers from other L1 backgrounds or other parts of the research article. The techniques through which lexical bundles can be taught or brought to learners' attention would also be an interesting topic for further investigation.

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EFL Online Learning versus Classroom Learning by Thai Students

Payung Cedar

Naresuan University, Thailand

Biodata

Payung Cedar, PhD., is an associate professor in the English Department at Naresuan University. Her interests include applied linguistics for pedagogy and professions, particularly in EFL contexts.

Abstract

One of the most debated issues regarding the use of the Internet for foreign language learning is whether it is more efficient than classroom teaching, and how certain students perceive or react to it. Several studies have investigated the effectiveness of learning vocabulary and grammar for reading and writing via the Internet, but few have been conducted on developing conversational skills with the help of the Moodle E-learning delivery platform. Therefore, this study aims to demonstrate the use of the Internet in thirty class lessons for nursing students enrolled in an English conversation class at a university in northern Thailand, compared with the use of routine techniques in classroom settings. Research results showed that there was a statistically significant difference between pretest and posttest scores of the students in the classroom group, as well as in the online group. However, there was no significant difference between the posttest scores of students in both groups although learning perceptions by students in both groups were interestingly controversial.

Keywords: online learning, classroom learning, nursing English, Thai students

1. Introduction

1.1 Distance learning and Moodle

Distance learning is a learning environment scheme where the students and the teacher are not in the same place. Distance learning integrates a number of technologies and methods in delivering education or training to a widely-dispersed population. It is convenient, flexible, and controllable. It does not require physical presence and allows students to study at any time and from anywhere at their own convenience. Distance learning includes “online learning” which primarily delivers instructions and assignments over the Internet and enables students to utilize their own learning style that works best for them (Brown, 2001). According to Thailand National Education Act of B.E. 2542 (1999), “lifelong education” means education resulting from the integration of formal, non-formal, and informal education in order to create an ability for continuous life-long development of quality of life. It also specifies the use of technology for education. Indeed, many universities and schools worldwide are complementing a traditional classroom with online learning or E-learning, using online learning management systems to teach many subjects, including English.

Moodle, an online Learning Management System (LMS), or Course Management System (CMS), is a type of software that allows teachers without web programming knowledge to deliver their course content, communicate with students, and create online tests and quizzes. Moodle is easy to understand and can be used by teachers who have a low level of computer proficiency. It is easy to change the course language, including the navigation links, buttons, and directions. It has features needed to create online learning, such as student tracking, grading tools, journals, discussion forums, in many fields, including the healthcare profession (Howard & Grauer, 2004) and language learning.

1.2 The needs of English for nurses

Nursing professions in Thailand are becoming more skilled and international from the world health perspective. With the growing number of foreign patients, nurses in Thailand have to be able to communicate with non-Thai patients. Accordingly, nursing students in Thailand nowadays need greater improvement in their English proficiency as well as their academic knowledge in order to stay updated on research developments in nursing, to gain access to an international career, to interact with foreign patients and families, and to do research which might require understanding international research procedures. Specifically, to increase patient safety and the quality of nursing care for international patients, it is necessary for nurses to have good English conversation skills for various purposes; for example, giving directions, advising before and after surgery, explaining medication, giving a nursing report, making requests, and solving nursing problems (Ritchie, 2002; Zughoul, El-Badarin & Mustafa, 2003).

Nevertheless, most Thai nurses are unable to converse in English (Lamai, 2007). The traditional method of teaching English in nursing schools often consists of learning grammar and vocabulary in textbooks, but this method by itself is simply insufficient to help them learn practical English. They need to have a more practical conversation study and an additional system to improve their English. One of the most widespread methods of delivering language instruction is online learning (e.g. Felix, 2002; Nah et al., 2008; Wang & Coleman, 2009). To date, there has been limited consistent evidence of a significant difference in student performance between online learning and traditional classroom learning, especially in nursing

EFL education. A review of online databases of research articles has shown no research studies regarding online learning in Thailand.

The current research is the first attempt at online ESP learning for Thai students and was developed to investigate the effectiveness of a web-based course, using Moodle versus a traditional paper-based classroom. The objective of this experimental course was to develop students' listening and speaking skills. Students' learning outcomes and perceptions related to online learning and those from the traditional delivery methods were evaluated and compared. This research should benefit teachers of English for Specific Purposes (ESP) courses in that it provides supplementary materials for teaching nursing English interactions, showing to what extent Thai students can perform in learning English online, as well as whether there is a significant difference between learning nursing English online compared to in the classroom. In addition, the results should provide insights into how to use the Internet to support EFL learning in Thailand's context.

1.3 Research questions

1. Did nursing students who studied English via the Internet have different achievement scores compared to students who acquired the same knowledge in a traditional classroom lecture format?
2. What were nursing students' perceptions of classroom learning and online learning?

2. Review of related literature and research

2.1 Teaching professional English

English for nursing purposes (ENP) is English teaching that requires a method that is different from teaching general English. Teaching ENP in the EFL environment is difficult, particularly for those who have no knowledge of the specialized language. When designing an English curriculum for nursing students, teachers should pay attention to the career-specific language and the needs of the students, as well as language structures or grammar. Moreover, medical English teachers should collaborate with medical professionals, as well as students, to find out what aspects should be taught and learned. Since student language needs are different, teachers must carefully select content, materials, methods and teaching modes to stimulate students to work on their own.

2.2 The pros and cons of online language learning

Online learning, or E-learning, is a method of learning which uses the Internet or the World Wide Web to deliver a large number of course content and materials to students (McEwan, 2001). This allows students to learn independently, at their own pace, anytime and anywhere (Grimes, 2002; Casas, 2006). As a result, educational opportunities are now delivered to students who in the past struggled with the limitations of time, distance, family, and money (Hofmann, 2002). There are many ways in which the Internet can be used to encourage and motivate students to learn English (Chuchalin & Danilova, 2005); for example, using a wide range of features, media, and simulations, and means to exchange ideas (Morrison, 2002).

Despite the advantages of web-based learning, some difficulties with web technology in teaching and learning are noted (McKimm, Jollie, & Cantillon, 2003). These difficulties

include unreliable and slow access to the web, especially via dial-up modem; no meaningful support of oral production skills; the reluctance of some students to work with the web or any computer technology; and a somewhat isolating environment (Suanpang, Petocz, & Kalceff, 2004).

2.3 Traditional classroom versus online learning

There are differences between traditional language learning and online language learning. Obviously, the main difference is when and where students participate. While a regular classroom requires physical attendance in the class, online learning can be accessed using a computer and the Internet anytime and anywhere (Smart & Cappel, 2006). Another difference is the role of teachers and students. In traditional classrooms, teachers control the learning by presenting content and directions to the whole class, and students follow the teachers' guidance, whereas in online language learning, teachers are facilitators who provide the content that meets their students' needs so that students have greater access, flexibility, and control over their learning experience and content (McKimm, Jollie, & Cantillon, 2003). Finally, the interaction between teachers and their students is not the same. Traditional language classrooms primarily involve face-to-face communication, while online learning involves remote communication by means of e-mail, web board, and chat rooms. Nevertheless, the Internet can also be used as a supplement to a regular classroom, but not as a substitute for traditional methods (Ali & Elfessi, 2004).

2.4 Previous research on online English learning

In the past decade, several researchers have studied the advantages and disadvantages of online learning, based on learners' satisfaction and attitudes towards web-based English courses. Most of the previous studies explored students' opinions on three issues. First, studies of undergraduate students' perspectives on using websites and online learning showed that website activities, including multimedia activities, such as text, graphics, sound, animation, and simulation, were believed to help improve learners' English skills and promote their autonomy and motivation (Thang & Bidmeshkin, 2010). Another group of surveys of students' perceptions focused on the use of web applications, e.g., wikis, forums, web blogs, and Facebook. The findings indicated that students thought that using web applications could help support and enhance their English learning (Namvar et al., 2009; Kabilan, Ahmad, & Abidin, 2010; Miyazoe & Anderson, 2010; Yang, 2011). The last group of studies of students' perceptions concerned the integration of classroom learning and web-based learning, most of which used both questionnaires and interviews. The results showed that students found the combination model beneficial, as it helped enhance their language skills and promote self-motivation, self-discipline for their own learning (Ozek et al., 2009; Ming, 2010), and satisfaction - particularly in that the web-based activities provided free access, ease of revision, and intriguing learning material (Shih, 2010).

Apart from the advantages students can gain from online language learning, previous studies reported some disadvantages of learning via the Internet. They find that online learning was meaningful only if it was in line with class objectives and outcomes (Kabilan, Ahmad, & Abidin, 2010). Helpful websites should be used to complement the traditional classroom (Thang & Bidmeshkin, 2010). In addition, web-based courses were normally less

beneficial than a classroom-based course if students had little or no experience with web-based learning (McIntosh, 2003). In fact, online learning could be difficult due to slow Internet connections, pop-up advertising, and time constraints. Thus far, only few studies have assessed students' learning outcomes, either with or without their opinions on the effectiveness of online courses. However, the results from these studies revealed that students in online classes scored significantly higher than those in traditional classes, regardless of students' gender, ethnicity, and English language proficiency (Hussin, 2002; Chen, Belkada, & Okamoto, 2004; Graves et al., 2010).

In Thailand, students had positive attitude towards using websites and e-mail to enhance their regular English skills but only 2.56 % used them (Prapphal, 1998). In addition, the use of computers in English classes was low. The use of online collaborative language learning in Thailand has been reported by a few researchers, but no research in the databases has reported hands-on use of online English learning in Thailand's context, let alone a comparison of online learning and classroom learning modes. In addition, English conversation practice in the nursing field is rare even though nurses need it in order to work worldwide or even to treat the increasing number of international patients due to the growth of medical tourism in Thailand. This leaves room for new research to attempt to fill the gap. Consequently, this study aims to determine the effectiveness of EFL learning in traditional classroom versus online settings by nursing students, and to look into the learners' perceptions of their learning methods.

3. Research methodology

The participants, research instruments, and data collection in the current study are described below.

3.1 Participants

The participants were 31 third year nursing students enrolled in the Professional English course at Naresuan University. They were divided into two groups (15 students studying online, and 16 students studying in a classroom) using the mean scores of the pretest results taken three weeks prior to the lessons (21.9 and 21.56, respectively). As the total number of students was 31, an odd integer, dividing them into two groups with similar English ability was a little complicated. To set two groups of the subjects, all the scores they gained from the pretest were arranged in decreasing order. Subsequently, two methods were applied, one at a time. The first method was exercised with the scores from top to bottom and the second was from bottom to top. To be exact, the student with the highest score was assigned to group 1 while the student with the second highest score was assigned to group 2. Then, the one with the third highest score was in group 1 whereas the one with the fourth highest score was in group 2. The rest of the students were assigned to the two groups with the same criteria and procedure. On the contrary, the second method grouped students from the lowest score to the highest in a manner similar to the first method. The mean value of each group was calculated and compared with that of its counterpart. The paired groups with more similar mean values were selected for the study.

3.2 Research instruments

Research instruments in this study were teaching materials designed to be used as content in both online learning and classroom learning, and two testing materials: one to assess students' learning achievements in both groups, and the other to measure students' perceptions of their online learning.

3.2.1 Teaching materials

Thirty patient-nurse dialogues were partly created with the aid of professional nurses and doctors, and partly collected, adapted, and edited from published books and online materials that contain medical conversations between medical professionals and patients. After the draft of dialogues was completed, two nurses and two doctors who used English in their career verified the content and gave suggestions for revision. The dialogues were revised and then submitted to two native speakers of English for proofreading. After the dialogues were approved by all the readers mentioned above, they were made into three recordings: one produced by computerized voices, one completed by two American English native speakers and two Thai speakers who were very fluent in English, and one recorded by two British English native speakers. Interestingly, almost all students voted for the first recording until they were told that it was done by machine voices. The three recordings were interchangeably utilized in class and online to provide students with various accents and choices. A sample dialogue is shown below.

P stands for Patient; N stands for Nurse.

P: I have an appointment at 10 o' clock.

N: Do you have a hospital I.D. card?

P: No, I don't. Where can I get one?

N: Please go to the registration desk. Tell them that you need a hospital I.D. card. Come back here after you get your card.

3.2.2 Testing instruments

The testing instruments employed in this study were a pretest/posttest, a questionnaire of students' perceived online learning, and a questionnaire of students' perceived classroom learning.

The pretest, which also had the same content as the posttest, was designed on the basis of the contents taught. Nevertheless, the resemblance between the two tests was not mentioned in order to prevent attempts to memorize the test. Moreover, the posttest was used four-weeks after the pretest; hence, it was less likely that students would remember the test. The test comprised of 40 items, covering listening, speaking, words and expressions, and grammar, randomly selected from the 30 dialogs used in the course. It was written by the researcher, proofread by two nurses, two physicians, and two English native speaker lecturers. It was piloted with ten nursing students who were not in the sample group, in order to check content validity. Below are the directions of the test:

Part 1: Listen to the conversation and choose the right answer. (5 points)

Part 2: Listen to the conversation and fill in the missing sentences. (10 points)

Part 3: Fill in the blanks with words from the column on the right. (15 points)

Part 4: Rearrange the following words to make a correct complete sentence.

(10 points)

Together with the posttest, two questionnaires on learning perceptions were designed for the online group and classroom group. The questionnaire for online study respondents was about their Internet use habits, their opinions towards learning English online, and the problems that they encountered when using the program to learn English. To avoid misunderstanding, ambiguity, and language problems, the questionnaire was written in Thai, the native language of the respondents. It comprised of 18 Likert-type statements measuring the students' opinions towards learning professional English through the Internet, each with five response options: 1 “strongly disagree” (SD), 2 “disagree” (D), 3 “undecided” (UD), 4 “agree” (A), and 5 “strongly agree” (SA). Approximately half of the items denoted a negative opinion and another half denoted a positive opinion towards learning English online. In addition, the students were asked to report the problems and difficulties they encountered when they used Moodle to learn English. Apart from the questionnaire for online students, the questionnaire for classroom students contained 12 Likert-type statements measuring students' opinions about classroom learning.

3.3 Data collection

On the first day of the course, all the students enrolling in the English course were notified about the research project, and they were invited to participate. All of them were willing to do so; therefore, they were asked to take a 45 minute English pretest for nursing professionals. After they had completed the test, the class was dismissed. The researcher then checked the answers and arranged the total scores from the highest to the lowest. Afterwards, the students were divided into two groups with the methods previously described earlier. The next time the class met, the students were assigned to groups on the basis of their previous test scores.

All students studied together for the first three weeks of the course. The content was totally different from that designed for the research project. Study did not begin right after the first class because class registration fluctuates due to the add-and-drop within the first two weeks of each semester, and time was needed to prepare students' passwords and usernames. The students in one group studied online materials supported by Moodle at their own pace, whereas students in the other group studied the same contents in a traditional classroom format without online access. They all knew that they were required to take a posttest after the end of their study period. It was made clear to all the students that the score they earned from the posttest would be counted as part of the evaluation for the final grade of the course. This was to ensure that every student in either group would study hard.

Core materials and exercises in both study settings were substantially similar. In the traditional classroom, the course was offered in a lecture and discussion format with assignments. The activities used in class were one conversation presented at a time with its audio sound, words and expressions explained by the instructor, group drills, pair activities, role plays, and dictation. In the online section, the course was offered on the Internet using Moodle as an open source platform course management system. Students were given a username and password to sign in to the course. The core content and exercises were similar to the ones in the traditional paper-based course, but presented with pictures, texts and sounds. The observable differences of the look between the classroom materials and the online ones were colors, and links to additional English (academic and non-academic, for medical professionals, presented with or without texts, with or without images in audio, video, or movie formats). The course was also designed to encourage flexible learning, so the students were free to choose any dialog they wished to learn first. When they chose a dialog, they

would see the dialog starting from “Words and Expressions,” the text and its audio sounds. They could repeat all the dialogues as often as they wished. Students could learn online English as often as they liked, anywhere and anytime it was convenient for them. If they had any question related to the course, they could post it over the web board where discussion among the students and the instructor was encouraged. Students were allowed to study on their own pace. No assignments that would need to be submitted were given, but they could choose to do interactive medical English exercises on the hyperlinks given. However, they were told that the instructor would check their visits via the log.

After the study period had ended, all students came to class to take a posttest based on what they studied. Students in the online learning group also completed a questionnaire about their perceptions of learning online, whereas those who studied in class completed a questionnaire on their perceptions of classroom learning. When finished, they had a 10-minute break. After the break, a semi-informal class discussion regarding the pros and cons of classroom learning and web-based learning was led by the researcher.

4. Findings and discussion

In response to research question 1, *Did nursing students learning English via the Internet gain different achievement scores than did students receiving the same knowledge in a traditional classroom lecture format?*, achievement scores obtained from the pretest and posttest were compared. The results of *t*-tests showed a statistically significant difference between the pretest and posttest scores in both groups, ($t = 7.956$, $p < 0.001$ for the online learning group, and $t = 7.956$, $p < 0.001$ for the classroom learning group). Also, the descriptive statistics obtained from comparing the mean value of the pretest and posttest scores from each group

showed that students in both groups did better in the posttest than in the pretest (16 % difference in the online learning group and 21% difference in the classroom group). The Cronbach's alpha reliability was at the level of .79. Interestingly, there was no significant difference between the posttest scores gained from each group, and neither was there a significant difference between difference scores from posttest and pretest scores in the two groups. For better understanding of the results, the associated descriptive statistics are thoroughly displayed in Tables 1 and 2 below.

Table 1: Achievement scores obtained by students in the online learning group (The Cronbach's alpha reliability was at the level of .78)

No.	Pretest	Posttest	Post- and pretest difference (raw score)	Post- and pretest difference (%)
1	15.5	24	8.5	3.4
2	16.5	26.5	10	4
3	17.5	27	9.5	3.8
4	17.5	27	9.5	3.8
5	19	28	9	3.6
6	20	22	2	0.8
7	21.5	32	10.5	4.2
8	22	34	12	4.8
9	24	26	2	0.8
10	24	27.5	3.5	1.4
11	24	26	2	0.8
12	24	27.5	3.5	1.4
13	26	31.5	5.5	2.2
14	27	33	6	2.4
15	30	36.5	6.5	2.6

Table 2: Achievement scores obtained by students in the classroom learning group (The Cronbach's alpha reliability was at the level of .75)

No.	Pretest	Post-test	Post- and pretest difference (raw score)	Post- and pretest difference (%)
1	15	21	6	2.4
2	15.5	28.5	13	5.2
3	16.5	25.5	9	3.6
4	17	27.5	10.5	4.2
5	17.5	31	13.5	5.4
6	18.5	30	11.5	4.6
7	20.5	33	12.5	5
8	21.5	31	9.5	3.8
9	22.5	30.5	8	3.2
10	23	20	-3	-1.2
11	24	27.5	3.5	1.4
12	25	33	8	3.2
13	25.5	35	9.5	3.8
14	25.5	35	9.5	3.8
15	28.5	38.5	10	4
16	29	32.5	3.5	1.4

All students, with one exception, did better in the posttest than on the pretest. This shows that students can gain knowledge from online learning. The posttest results varied, but perhaps this is to be expected, as some students take longer to improve than others. In a real-world learning environment, some students might benefit from a flexible deadline for testing, so that they can take more time to learn. One student (No. 10) did worse in the posttest. It is possible that this student is a slower learner, or that s/he either guessed more successfully on the pretest, or simply was not prepared for the posttest.

In addition, in response to research question 2 *What were nursing students' perceptions of online learning?*, the study investigated the students' attitude toward the online

learning method. The crucial results indicated that most students found online learning to be convenient for their study-time management (93.33%). Many nursing students thought they should use the program as they found it interesting, easy and convenient for repetitive reviews (86.67%). However, some students did not want to study via the Internet (34.67%) as they found it boring (37.33%), and they were worried that they could not succeed academically via the Net because they lacked the computer skills needed (36%). On the other hand, students studying in the classroom environment were satisfied with time flexibility and convenience (91.25%), they believed that classroom learning was interesting (90%) and they felt that all students should study English in class (88.75%). Less than half of the students did not want to study English via the Internet (38.75%); nonetheless, some students did not want to use the E-learning program without classroom study (47.50%). To conclude, the study showed that while students in the online learning group did not generally score better than those in the traditional learning group, they did not do any worse. Additionally, many students enjoyed and recommended this method, indicating that it could be motivational and enhance traditional methods of instruction. The findings are shown in detail in Tables 3 and 4 below.

Table 3: Perceptions of online learning by students in the online learning group

Statements	Score	%
1. I can learn ENP at anytime and from anywhere.	70	93.33
2. I can improve my English by repeatedly reviewing ENP lessons through Moodle E-learning program.	66	88
3. Nursing students should know how to learn ENP through Moodle E-learning program.	65	86.67
4. Learning ENP through Moodle E-learning program is interesting.	65	86.67
5. Learning ENP through the Web is easy.	65	86.67
6. Learning ENP through Moodle E-learning program allows me to control the pace of my learning.	65	86.67
7. Moodle E-learning program offers flexibility and convenience for	63	84

nursing students to learn ENP.		
8. Learning ENP through Moodle E-learning program is an effective way to learn.	58	77.33
9. Learning ENP through Moodle E-learning program is boring.	58	77.33
10. I would like to have online ENP learning just as an additional support for classroom learning.	56	73.33
11. Slow internet connections make accessing the E-learning course frustrating.	42	56
12. Learning ENP through Moodle E-learning program makes me feel isolated from the teachers and other learners.	39	52
13. I would like to study ENP via the E-learning program only.	38	50.67
14. I do not think that learning ENP through Moodle E-learning program would benefit my learning achievement.	35	46.67
15. Having limited computer skills may cause difficulties in learning ENP through Moodle E-learning program.	35	46.67
16. Learning ENP through Moodle E-learning program requires self-motivation.	28	37.33
17. I feel anxious and frustrated learning ENP through Moodle E-learning program because of my computer competence.	27	36
18. I do not want to study ENP via the E-learning program.	26	34.67

(Statement items were re-arranged by scores to ease understanding)

Note that ENP stands for English for Nursing Purposes

Table 4: Perceptions of online learning by students in the classroom learning group

Statements	Score	%
1. Classroom learning offers flexibility and convenience for nursing students to learn ENP.	73	91.25
2. Learning ENP in class is interesting.	72	90
3. Nursing students should learn ENP in a classroom.	71	88.75
4. I would like to have additional ENP learning via an online program	71	88.75
5. Classroom learning is an effective way to learn ENP.	69	86.25
6. Learning ENP in class needs motivation and encouragement from the instructor.	69	86.25
7. I can improve my English by repeatedly asking the instructor about ENP lessons in class.	67	83.75
8. Learning ENP in class allows the instructor to help control the appropriate learning pace.	64	80

9. I think that learning ENP in class would benefit my learning achievement.	64	80
10. Learning ENP in class is easy.	59	73.75
11. I would like to study ENP via the E-learning program only.	38	47.50
12. I do not want to study ENP via the E-learning program.	31	38.75

(Statement items were re-arranged by scores to ease understanding)

Note that ENP stands for English for Nursing Purposes

5. Discussion and conclusion

This study explored the benefits of learning in a classroom versus learning via the Internet by nursing students at a university in Thailand. Based on the paper-based test results, there was no significant difference between the posttest scores of students in the two groups. Neither was there a difference between difference scores from the posttest and the pretest scores of the two groups. Yet, some students in the online learning group reported insufficient computer skills for online learning. These results are consistent with the one obtained from computer science students learning online EFL (Chen, Belkada, & Okamoto, 2004), but it contradicts with the results of a study administered with registered nurses taking an online course (Atack & Rankin, 2002), and the findings received from medical students, pharmacists and students in pharmacy clerkship, who reported that they preferred classroom learning or a paper-based system (McIntosh, 2003; Howard & Grauer, 2004). As seen, learning EFL in class or via the Internet does not make a significant difference as long as the learner is self-motivated, self-disciplined or self-directed, and processes certain computer skills required for online learning (e.g. Grimes, 2002). Nonetheless, most students in this research could meet the requirements because their learning would affect their grade. Accordingly, these findings imply that online learning can be a substitute for classroom learning if it is done right.

Above and beyond better learning achievements, the majority of the nursing students had positive opinions towards online learning. For those studying ENP in a classroom, even though most of them preferred the traditional classroom, some still wanted to have online learning as a supplementary source. During a class discussion about learning, the majority of students stated that they would like to study in class and have additional online materials so that they could repeatedly review their lessons easily from anywhere anytime at their own pace. Interestingly, no students posted any question on the web board, and none of them replied to the instructor's posted questions, either. The students said in class after the posttest that they did not do so merely because it was not required. Hence, it is possible that any online interaction or discussion with students can be effective in Thailand context if it is set as a requirement of the course. Unfortunately, one student from each group admitted in class discussion that they were close friends, so they shared a given username and password for classroom learning in order to share what the online program offered; however, no online learning students requested classroom information of any kind from anyone. Giving a personal username and password to a peer in this case was considered "cheating" and was prohibited with pre-warnings; however, this mistake indicated that regardless of intent, students may ignore serious warnings. A more secure method of online access may be necessary to prevent simple user/password sharing. One interesting line of study might be to see how low or high security for access to online learning impacts the ability and willingness of students to take part in it. For instance, requiring a VPN or public/private key authentication method might discourage students with limited computer knowledge – unless the method seems as simple to the student as a user/password setup. Authenticating students for the purpose of valid scoring is also an issue, but it is outside the scope of this study.

The observation of the student access logs indicated that some students visited the website for a certain amount of time per visit but rather regularly while the others used the website for a long period of time per visit and merely a few days before the test, thereby overloading the website and causing the program crash. Nevertheless, this was not an unfamiliar dilemma, and the students could still receive the posttest scores higher than the pretest ones.

6. Implications of the study

6.1 Pedagogical implications

According to the results of this study, “teachers are irreplaceable” is never an exaggeration. In either classroom learning or online learning, teachers are the most desired, no matter what their roles are. One important factor in either classroom learning or online learning that teachers should consider is the student's local learning culture (Tu, 2001). Thus, pedagogical implications can be useful for teaching English as a Foreign Language in an environment like Thailand, where students have long been used to traditional classroom learning that fits their social nature. That is to say, from their early days, students have been used to studying in a large-sized class at school, then joining a tutoring course with other students after class. Hence, to promote self motivation and self discipline, a new online class management system should be introduced from the very beginning of the course in the form of syllabus content, together with a thorough hands-on training of how to use the program. The teacher should set the time to meet with students online or in person, if necessary, to verify whether they all know how to use the program until they are familiar with it and become self-motivated and

self-disciplined. Frequent checks on their access and frequent small assignments or quizzes that need to be submitted online would help them stay on their toes.

In addition, to ensure that students can always have something to rely on when they cannot access the Internet for any reason, distribution of paper-based handouts of the course content is vital. Last but certainly not least, online computer experts in the class should be officially appointed so that their peers can feel comfortable consulting with them; most Thai students are reluctant to contact their teacher unless they have some serious trouble that they cannot solve by themselves. Small rewards and compliments should be given to students who excel in their learning and activity online. Students could receive positive feedback for frequent and consistent visits to the recommended websites with observable active participation, e.g., posting a question or answering discussion topics posted on the web board.

For course content preparation, students in the class discussion concurred that all the dialogs studied were practical and met their needs. Consequently, careful designing and writing, proofreading by professionals, and recordings with a variety of accents are recommended for the development of course content. This is especially true, when the course is taught by language instructors without professional experience in the students' academic field. It takes a good deal of effort to prepare the online course. In fact, the amount of time spent on the preparation is about the same as the amount of time spent on teaching the whole course. Accordingly, developing effective online ESP courses can be costly and time consuming.

In a nutshell, it is strongly recommended that effective EFL teaching includes classroom teaching, considerably supported by online learning experiences via online interactive courses and discussion blogs that meet student needs.

6.2 Limitations and future research directions

The current study did not assess students' authentic interactive performance, but only paper-based test results. Thus, the learning achievement or outcome in this study refers to knowledge or competence. However, without knowledge or competence, no one can effectively communicate. Further research can fill this gap by closely considering students' actual performance after classroom and online learning. In addition to simulated situation conversations, a course content designer or writer should go into the ESP field to observe and, if possible, record authentic English conversations between nurses and patients, as well as the patients' family, native or non-native English speakers. The recordings obtained would be exceptionally valuable; they would help students to learn to comprehend authentic English, whether standard or not. Last but not least, further ESP learning research is highly recommended in other medical fields, technological fields, architectural realms, and scientific fields.

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Students' and an ESP Teacher's Views on Industry-academia Cooperation: Co-teaching a Business English Course

Yu-Hsiu Huang

Southern Taiwan University, Taiwan

Biodata

Dr. Yu-Hsiu Huang is an assistant professor of Department of Applied English at Southern Taiwan University of Science and Technology, Taiwan. Her research interests include CALL and ESP. She can be reached at yuhsiu@mail.stust.edu.tw

Abstract

The aim of this study is to shed light on teacher training in a Business English course, co-taught by an industry expert and an ESP teacher for one semester. Students were found to appreciate the field expert for increasing their exposure to the business industry culture and for sharing real-world professional knowledge. Learning about the field expert's working experiences helps students to develop awareness of industry values and reduces their anxiety regarding their future career development. The ESP teacher also appreciated the opportunities to acquire business knowledge and understanding of business practice from the co-teacher and reflected upon the roles and needs of ESP teachers.

Keywords: ESP, ESP teachers, CLIL, Business English, co-teaching

1. Introduction

With the spread of English as the global language, students are expected to display competency in fundamental English skills and have employment-oriented competencies by employers (Harding, 2007; Hu, 2009). The training of specialists with both field-specific knowledge and language competence has become an educational goal. In Taiwan, it is perceived that a general English course cannot satisfy the communication and occupational needs of the workers in the field of specific language domain such as trading and business, English for Specific Purposes (ESP) courses, such as Business English and English for Tourism, as well as Content and Language Integrated Learning (CLIL) courses, have been developed in the tertiary sector to help learners develop field-specific communication skills and expertise in order to succeed in the job market. Hence, teachers may be required to teach many differently oriented ESP and CLIL courses, including some areas that are unfamiliar to the instructors (Huttner, Smit, & Mehlmauer-Larcher, 2009). In other words, general English teachers specializing in TESOL may lack professional knowledge and practical field experiences in certain specialized areas. Therefore, co-teaching courses by both industry experts and general English teachers has been promoted and implemented by the Ministry of Education in Taiwan.

1.1 ESP and CLIL

Taiwan's economy has been export-oriented and foreign trade has been the core of Taiwan's economic growth during the past 40 years. However, general English language education cannot cater for the needs of the employees and students seeking jobs in the trading and business industry who find themselves having to learn not only English but also knowledge of

trading and business practices. Business English courses are being offered in the tertiary sector. However, what is taught in Business English and how it is best taught have remained controversial. ESP, discourse studies, and CLIL models can be used to help address the concerns.

The differences between ESP and CLIL are regarded as mainly epistemological (Cately, 2011; Fernandez, 2009). ESP courses are mainly taught by English teachers to help students achieve specific goals of learning and communication. CLIL courses can be taught by the English teacher using the subject content or the subject teacher using English as the language of instruction (Bicaku, 2011). On the other hand, in immersion education, the language of instruction is the language used in the surrounding community (Nikula, 2005).

ESP and discourse studies have provided insights into Business English teaching. As a teaching approach characterized by prioritizing learner needs, ESP offer valuable thinking devices and an operating framework for teaching Business English (Zhang, 2007). ESP courses use an approach to the teaching and learning of English in a way designed to meet the specific needs of particular groups of learners (Dudley-Evans & St. John, 1998; Hutchinson & Waters, 2002). Harding (2007) defines ESP as the language taught to get things done. Understanding learners' needs and their reasons for learning is essential for successful ESP course implementation, as the ESP course aims to define the skills, texts, and communication practices that a specific group of learners must acquire (Johns & Price-Machado, 2001; Hyland, 2007).

On the other hand, language-as-discourse studies offer insights into the process of interaction between business and language: “the activities and topics of business participants, complicated networks of interpersonal relations, strategies and tactics taken up for pursuing

particular goals, dynamics of discourses, and features of linguistic realization” (Zhang, 2007, p.406). Zhang (2007) suggests that the teaching of Business English can be seen as interdisciplinary efforts involving and integrating three fields: subject knowledge (economics, marketing, finance, and business laws), business practice (procedures, conventions, etiquette, and strategies for addressing various goals in the professional community), and language skills (writing, discussion, presentations, meeting, negotiating, socializing, telephoning, corresponding skills, and awareness of genres in terms of accuracy and appropriacy). Integrating and applying the insights from ESP and discourse studies, educators may be able to provide better curricula and courses for students oriented to trading and business.

Marsh (2002) defines CLIL as ‘any activity in which a foreign language is used as a tool in the learning of a non-language subject in which both language and subject have a joint role’. Language and content coordination is a must in both CLIL and ESP. In the language vs. content relationship, Fernandez (2009) modifies Mohan’s (1986) model and proposes four possible combinations: (1) Language by Content, (2) Language with Content, (3) Language for Content, and (4) Language through Content. Content (subject matter), communication (the language of and for learning), cognition (the thinking for high quality learning), and culture (global citizenship) are all equally important in a successfully implemented Content Language Integrated Learning courses (Coyle, 2002). It is not easy to decide the relationship between language and content. Courses such as Cross-cultural Communication, Business Communication in English, and English for Professional Communication are regarded as ESP courses, and Business Administration, English Culture and Civilization CLIL ones (Cately, 2011).

ESP and CLIL courses offer a variety of advantages: they facilitate both language development and subject mastery as the context is meaningful and the language is authentic (Xanthou, 2011). Students are motivated as language is used to fulfill real purposes. Students focus on the content and language subconsciously and their affective filter and level of anxiety naturally become lower. It is also time-saving to learn language and subject at the same time. In addition, by integrating two disciplines, ESP and CLIL courses offer a greater variety of teaching methods, activities, and resources (Bicaku, 2011). ESP and CLIL classrooms are set up in order to use English as an instructional language to learn about non-language subjects, so, instead of being treated as novice English learners, ESP and CLIL students are regarded as experienced users of English (Nikula, 2005).

Even though in EFL and many other fields, ESP and CLIL have received increasingly greater attention, its practice so far has not been quite satisfactory (Bicaku, 2011; Catelly, 2001; Chen, 2009; Dudley-Evans, 1998;). The main problems in the development of ESP and CLIL in Taiwan (and probably around the world) include a lack of qualified teachers, a lack of formal teacher training programs, a lack of relevant curricula and materials that can reflect or meet the needs of industries, low (or no) cooperation with content teachers, lack of financial support for the course from the university, and difficulties caused by the marked heterogeneity of the students in terms of English level and content knowledge (Bicaku, 2011; Catelly, 2001; Chen, 2000; Lai, 2005). In China, for example, Gao (2007) points out that ESP writing courses are still limited to learning specific lexicon and translating texts, and so much more attention should be paid to teacher training and course design.

1.2 Problems with ESP and CLIL teachers

Chostelidou (2010) points out that the success of ESP and CLIL courses depends heavily on the quality of teachers. Working within a contemporary knowledge society that has been subject to rapid changes, ESP and CLIL teachers not only have to apply a multiple focus on content and language (Cately, 2011), but also often need to orient themselves to a new environment and teach unknown, unfamiliar, or emerging genres (Hutchinson & Waters, 2002). Most EFL teachers have a humanities background and received traditional English training (Ewer, 1983), yet they are now encouraged to take on new roles, enlarge their skills and competences, and teach a broader range of subjects to increase their career opportunities and prepare themselves for the challenges of their teaching profession (Bicaku, 2011; Cately, 2011). Teachers may feel anxious about the new way of teaching and find it difficult to abandon certain old conceptions (Diaz & Requejo, 2008). Problems with ESP teachers can be classified into a lack of background knowledge of the subject, business working experiences and awareness of business practices, knowledge of students' specific language needs, appropriate authentic teaching materials, knowledge in teaching methods, teacher training programs, and relevant curricula and materials that can reflect or meet the needs of industry. There are also difficulties caused by marked difference in terms of students' level of English and content knowledge, and difficulties in cooperation between language and content teachers, and issues regarding teachers' mindsets and perceptions toward ESP and CLIL courses and students,

Language teachers may have neither sufficient specific content knowledge nor awareness of business practice and knowledge of the specific language needs of their students. When they teach subject-specific knowledge and language skills outside their

primary area of study, they often encounter unanticipated in-class situations where their subject knowledge is limited, that is, the situation of “In-class Subject Knowledge Dilemma” (ISKD) (Wu & Badger, 2009). Many overworked EFL teachers are also found to be underprepared for the ESP teaching they are asked to undertake (Edwards, 2000). ESP and CLIL teachers are faced with a major challenge as they are expected to assume multiple roles as sources of knowledge, facilitators of the learning process, and assessors, and have to be properly trained on aspects of ESP principles and practice (Cately, 2011; Chostelidou, 2010). Some EFL teachers may even consider students lack proficiency in English and deny them of ESP and CLIL training as the teachers think it is necessary to improve students’ *general* English skills before teaching them English used in specific contexts (Tseng, 2007).

EFL teachers have been found to use a variety of strategies when they have to deal with an unplanned subject knowledge problem. For example, in a study conducted in China, it was found that Chinese EFL teachers often avoid such classroom practices as moving on to the next topic and focusing on the morphology of the item instead of exploring the subject knowledge because the ESP teachers lack the background knowledge. They often try to save face by not revealing their ignorance (Wu & Badger, 2009).

A study on Aviation English shows that some EFL teachers attempted to familiarize themselves with the new area and create language teaching materials by working with professionals and analyzing their discourse (Sullivan & Girginer, 2002). Jackson (1998) suggests that experienced ESP practitioners document their successful experiences and provide them as reality cases to be used in ESP teacher education in order to help teachers make a connection between knowledge and practice. Other researchers (Huttner, Smit & Mehlmauer-Larcher, 2009) suggest that the use of corpus linguistics and genre analysis can be

applied to diverse ESP settings to empower ESP teachers and help their students develop autonomous language ability. Edwards (2000) suggests that ESP teachers, in addition to using their own practical ESP background knowledge, could adapt current authentic texts taken from the media and international textbooks for the general 'business English' market to meet the needs of their students.

As to teaching approaches, Chen (2000) proposes a self-training model for ESP teachers and suggests that through reflecting on teaching tasks and conducting action research procedures which entail continuous participation and professional involvement in the disciplinary culture, ESP teachers can develop appropriate teaching approaches and improve their ESP teaching performance. Sifakis (2003) suggests ESP teachers need to take on the roles of teachers who promote ELT-methodology-specific communicative strategies with task-based activities to enhance learners' problem solving ability. ESP teachers also need to act as counselors who appreciate and enhance learners' learning needs, offer psychological assistance, and treat learners as adults, displaying the qualities of a competent therapist by being sincere, energetic, warm towards others, trustworthy, non-judgmental, and accepting.

In practical terms, Tseng's (2007) study shows that integrating TPR (Total Physical Response) to ESP helps students with limited English proficiency and reinforce their English skills. Students can become more actively involved by taking professional courses. As a result, the ESP teachers create lessons plans, incorporating the communication forms supported by interpersonal and contextual cues, and reducing the cognitive demands on the students. Tsai (2010) designed multimedia courseware which offers authentic materials with a logical situational layout and a friendly interface design to help ESP students develop oral presentation skills.

1.3 Advantages and disadvantages of co-teaching

ESP and CLIL have been essential developments within the field of English education in Taiwanese universities in recent years. As the demand for professional specialists who have high proficiency in both English and field knowledge has greatly increased, university educators and administrators have found it necessary to become more aware of current trends in English demand, and their implications for curriculum design and teacher development. Teaching ESP and CLIL courses requires a strong integration of knowledge of subject matter and language skills. To resolve the problem of a lack of qualified ESP and CLIL teachers in Taiwan, co-teaching schemes, involving both industry experts and English teachers, have also been promoted by the Ministry of Education with industry academia cooperation projects. By inviting field experts into the classrooms, the Ministry of Education hopes that co-teaching courses can help solve the problems identified in the area of ESP and CLIL teaching.

Studies have been conducted on the effect of co-teaching on gifted education (Hughes & Murawski, 2001), science methods (Eick & Dias, 2005), students with disability (Conderman, 2011), and chemistry classes in urban high schools (Roth, Tobin, Carambo, & Dalland, 2004). Co-teaching increases teachers' and students' access to social and materials resources and opportunities for action (Roth, Tobin, Carambo, & Dalland, 2004). However, one problem of ESP and CLIL courses is the difficulty of collaboration between content and language teachers. Extra work and more efforts by both teachers are needed in writing materials and planning activities (Bicaku, 2011; Gimeno, Seiz, Siqueira, & Martinez, 2010). Language teachers also complain there is often no financial support or cooperation with content teachers, and they alone have to face the demands for enriching their teaching portfolio and adjusting to students' changing needs (Cately, 2011).

Successful communication in business requires knowledge of the subject matter, familiarity with business procedure, and strategies of communicating the message. Many studies have focused on the language interaction and discourse in ESP and CLIL classrooms (Dalton, Puffer, 2005; Dalton-Puffer, Mikula, & Smit, 2011). However, little specific data can be found on aspects of subject content, business practice, and the co-teaching of ESP and CLIL courses—either to document their success or failure, or to impart guidance to those bold enough to venture down this untried path. It is of great importance that research be conducted in this field so that English education and teacher training development in Taiwan can cater for the needs of business communication competencies required of learners by the industry and society.

1.4 Purpose of the study

The purpose of the present study is to document both the students' and an ESP teacher's views on a co-teaching Business English. The study will also explore the essential factors that both benefit and match learners' expectations. In other words, this study is an attempt to help teachers and administrators become more aware of the current situation of ESP education and provide suggestions for teacher training.

1.5 Research questions

1. What are students' views on the co-teaching of the Business English course?
2. What are the perceived factors for effective co-teaching of the Business English course?
3. What are the ESP teachers' views on the co-taught course?
4. What suggestions do students and the ESP teacher have for the Business English course?

2. Research method

Both qualitative and quantitative research methods are adopted in this study. The data sources of the study include a survey questionnaire and reflection sheets.

2.1 Participants

The participants of this study consisted of 30 college students who attended an 18-week, two-hour-per-week co-taught Business English course at a university of technology in Southern Taiwan. Students also wrote their responses to the course on reflection sheets. To protect the participants' privacy, each student was given a unique code: S1, S2, S3, etc. The participants were also assured that their feedback of the co-teaching course was for the use of curriculum design and teaching improvement only. It would not affect their course scores.

2.2 Procedure

The 18-week course of the present study was divided into two parts: business knowledge and procedures taught by a field expert, and language for business context taught by the ESP teacher. During the first 6 weeks, a field expert from a trading company was invited to teach students concepts of international business and trading practice. Business case studies were also included in the syllabus. The field expert is a manager in a nearby trading company and has been in the industry for more than 15 years. During the final 12 weeks of the course, an ESP teacher with 7 years of EFL teaching experience taught students English used in business contexts such as interviews, telephone, meeting, presentation, and email writing. Both qualitative and quantitative research methods were adopted in this study. The data sources of the study include a survey questionnaire and reflection sheets. Data collection was conducted

in week 12 so that the students would be able to clearly recall their experiences and reflect on both parts of the course.

2.2.1 Questionnaire

The questionnaire consisting of 24 closed questions was designed to investigate the students' views on the co-teaching course. The first part of the questionnaire asks about the students' background information. The second part focuses on participants' views of the Business English course. These questions are listed in a Likert Scale column. For each statement, participants were required to indicate the level of their agreement (strongly agree to strongly disagree). The third part of the questionnaire consists of nine open-ended questions.

2.2.2 Reflection sheet

A reflection sheet was designed and was published on the student web bulletin board used for the course in order to elicit in-depth thoughts about the co-teaching of the Business English course. Another reflection sheet is provided to the ESP teacher to collect her views on the co-taught course.

2.3 Data analysis

Data were categorized and coded according to the research questions. Coded data were organized into three sub-themes: 1. the perceived factors that benefit effective co-teaching of the course, 2. the ESP teacher's views on the co-teaching course, 3. suggestions the students and the EFL teacher have for the Business English course.

3. Findings and discussion

The purpose of the present study is to understand both the students' and an ESP teacher's views on a co-taught Business English course. The research questions will be discussed in each of the sections below.

3.1 Perceived factors that benefit effective co-teaching of the business English course

As can be seen in Table 1 (see Appendix), in general, the questionnaire data shows that the students were satisfied with the teaching content (93%) and teaching method (86%) of the field expert, and agreed that the teaching of the field expert is beneficial to their practical learning (87%).

The teaching of Business English involves subject knowledge, business practice, and language skills (Zhang, 2007). The course aims to integrate these three areas and was found to be able to meet the needs of the students. It was found that the first part of the course on business knowledge and practice taught by the field expert was considered useful to prepare the students for studying the second part that focuses on language teaching. It also helps the students to achieve the learning outcomes of the ESP course. The students agreed that the co-teaching course helps them to become better motivated in learning about business English (87%), have better comprehension of the following Business English lessons taught by the ESP teacher (86%), and achieve better learning results in English learning (80%). The course design of teaching business content in the first part and teaching language in the second part was also considered appropriate and students reported that the content taught by the field expert is relevant to the English lessons taught by the ESP teacher (90%) and the collaboration of the field expert and the ESP teacher is appropriate (87%).

Almost all the students who wrote their feedback on the reflection sheets expressed their gratitude to be taught by an expert who has professional knowledge and is generous to share her stories and working experiences, including both struggles and successes. The quantitative and qualitative data collected from the reflection sheets demonstrates the validity of co-teaching on three fronts: it offers an introduction and insights into the business world; it is grounded in practical examples; and it helps in the formation of a professional persona.

Students appreciated the opportunity to acquire professional knowledge about trading (90%), international business procedures (90%), company organization (87%), and industry culture (90%). they reported that the sharing of the field expert's practical experiences exposed them to the values of business industry (87%), and that they have a better understanding of the challenges they may encounter in the workplaces by attending the classes taught by the field expert (90%). They found attending the course was useful for improving their understanding of general competencies (90%) and English proficiency required of workers in the workplace (87%).

S5: I think it is very meaningful to attend the 6 classes taught by the field expert. I can become more aware of the job requirements, tasks, colleagues, and customers I may encounter later in my job.

Becoming more aware of the job requirements and the working environment helps to reduce their fears of the "unknown" in the business world, and as a result, reduce their anxiety about future career development (86%). This can be illustrated from the following responses.

S34: I think the field expert is very helpful to us. With the information she shared with us, we will not be so afraid when we go out into society because as students we are not familiar with the complex world outside. Now we know about things we need to be more careful with, we will not be taken for granted later. Even though some of the content is not relevant to our life now, I think that will become useful later.

The course also helped the students to realize the importance of cultivating one's business ethics (83%) in the workplaces. Learning about the values of the business companies—trustworthiness and profitability—was also considered informative and useful in helping students reduce feeling of uncertainty about their future jobs.

S32: The last class was the most impressive—the field expert shared her working experiences and her story helped us to see it is important to be able to be trusted in business; that means you are a person with great ability and a sense of responsibility. I also learned the most important quality an employee should have is the intention to work hard and make money for the company. I am not sure about the future, but learning about business industry world and its culture and values has helped me to become less worried.

Practical experiences shared by the industry expert were considered valuable as most students (80%) agreed that they provide vivid examples of one person working with the integrating of business knowledge, business practice, and language competency. For students aspiring to business expertise, listening to stories of from a real businessperson was both inspirational and beneficial. Students considered these lessons to be ones they could not learn from normal classes or from the textbooks. The students also agreed that courses with the field experts are more useful for them than those only taught by the school teachers (90%).

S30: We learned a lot of theories and knowledge in classes, but we hardly know anything about practice. I feel it has benefited me a lot to attend the classes taught by a field expert. It has enlightened me and opened my eyes.

After attending classes taught by both language teacher and the field expert, some students reported they prefer to be taught by a ‘businessperson’ rather than a school teacher, as business people can offer them more practical knowledge and advice, which is much useful than theories taught by school teachers.

S2: The sharing of a real businessperson may be much more useful for us than the teaching materials of school teachers. Real business people can help us to understand what skills and knowledge we need to have, and how to deal with people and things.

The students reported that they learned from the field expert about the importance of positive attitudes and appropriate manners in the business world (80%), as well as dress code, social skills, and maintaining social relationship (83%), which helped the formation of a professional persona.

S4: During my gap year, I also worked in a company and I understand why the expert is so intent on teaching us the problems and solutions related to one’s career. In fact, many people lack the positive attitude and they often change jobs, one after another.

S20: ...the field expert is well-dressed. Her clothes look elegant, high-quality, and expensive.

The lessons taught by the field expert served as an opportunity for students to evaluate their current learning and values and the suitability in the real working place.

3.2 The ESP teacher's views on the co-taught course

The ESP teacher in the present study not only attended the classes taught by the field expert with the students, but also read students' reflection sheets. In the present study, an industry-academia co-teaching course was considered an effective method to satisfy students' learning needs and help improve the ESP teacher's content knowledge. It also offers an inspirational experience of interdisciplinary interaction and helps the ESP teacher to reflect on her teaching methods, the ESP teacher identity, and ESP teacher's learning needs. However, the ESP teacher also points out the disadvantage of exposure to business culture.

As ESP teachers are required to teach many unknown areas, the main problem faced by ESP teachers in Taiwan is their lack of professional knowledge and familiarity with industry practices. There is also a lack of relevant curricula, useful material, and formal teacher training courses (Lai, 2005). Overworked teachers feel underprepared and anxious when they encounter "In-class Subject Knowledge Dilemma" (We & Badger, 2009). However, through involving in the co-teaching course, the ESP teacher in the present study reported that the field expert's lecture serves as a good opportunity for her to acquire not only field-related knowledge, but also information on current business trends. In fact, the ESP teacher reported that involving in the co-teaching course provides her with a chance for actions that may lead to greater personal gains and better career opportunities. Participating in

the co-teaching course also stimulates the ESP teacher's curiosity in pursuing knowledge of different disciplines and motivation for personal growth. The co-taught course was considered to be the crucial first step of the self-training process, as suggested by Chen (2000), to overcome disadvantages of current teaching situations and improve teaching performances.

Inviting a field expert to teach the subject knowledge is very good for both me and the students. I am very curious and interested to know about all the secrets of the trade: factors and processes that lead to success in business, different delivery methods, different ways of payment, all kinds of details one must pay attention to. I am glad someone was generous enough to share her own knowledge and experiences with us.

Participating in co-teaching courses increase both the students' and the teachers' access to social and material resources (Roth, Tobin, Carambo, & Dalland, 2003). In the present study, the opportunity to be exposed to new knowledge and information about working experiences in a different field of endeavor was also considered an enlightening and stimulating experience by the ESP teacher. She valued the opportunities to learn about knowledge of the professional field and other related topics, including history, politics, and world finance, imparted by a real businessperson.

I came to realize that to be successful in the business one has to be really opened minded for all kinds of knowledge. Actually beneath all subjects and professions the principle rules are the same: being well prepared, positive, and developing the necessary virtues will give you a better chance to be successful. Learning from a person of a different profession and a different field is a good thing to help one see oneself more clearly.

Co-teaching courses integrates two disciplines with different teaching methods, activities, and resources (Bicaku, 2011). The ESP teacher reflected upon her own teaching methods by observing the lessons taught by the expert and found that the field expert was able to attract students' attention because the vivid personal stories shared provided background knowledge and was a more effective method of teaching than rote-learning. The ESP teacher also observed the field expert's teaching of business procedures with task-based activities (e.g., one calculation exercise to explain the concept and relation of cost and currency exchange and another exercise to produce invoices in order to achieve the lowest customs tax) and marveled at the importance of calculation expertise in business practice. The experience was reported to help her realize the usefulness of story telling and task-based activities in improving students' motivation and learning process.

When the field expert introduced concepts of business, such as price, quality, delivery, exchange rates, methods of payments,, she will also told one or two personal stories so we were so interested, because in this way those concepts become more than just information from textbooks, but something someone did in the real world.

EFL teachers nowadays are encouraged to increase their competencies and teach a broader range of subjects. Teachers may feel anxious and display different attitudes to challenges of their teaching profession. In this study, the ESP teacher identified her own problems of ESP teaching: a lack of professional business knowledge, working experiences, and awareness of procedure and convention of business practice. She only teaches the language at a superficial level, which is not as appealing to students as sharing real stories and

task-based activities based on an in-depth understanding of the industry and personal experiences.

We ESP teachers can only talk about the language at a superficial level, like word meanings, usage in sentences, and grammar. If we can explain with more background knowledge, students will be more interested; combined with personal stories, they will be fascinated.

Having the opportunity to observe the field expert giving lectures, the ESP teacher also explored her identities and roles as an English teacher. She responded positively to career development and the new role language teachers can play, as co-learners, adopters, and leaders. She also acknowledged the importance for language teachers to expand multi-disciplinary competencies and gain experience through participating in industry practice in order to offer better business courses.

I think in the changing world, people have to learn more and develop interdisciplinary competencies... You are required to have more working experiences and extensive knowledge so students will find your personal stories and examples interesting...In the past, I did not have any interest in business or anything related to math...after the co-teaching course, I realize trading and business is actually an interesting area. I also start to expand my knowledge by reading business textbooks, magazines, and news. I plan to take some more courses on trading and business and seek internship opportunities in the industry.

In a word, the teaching of the field expert not only introduces the students and the ESP teacher to the new field of business and international trading, but also motivates them to take actions, step outside their comfort zone, and start a new journey of learning.

The co-teaching course allows students exposure to business practices, including conventions, etiquette, convention, and values. However, being exposed to the business world can also have its disadvantage as the ESP teacher also pointed out students may wrongly place a higher value on work than on study, and thus undervalue the importance of studying and building up the foundation of language skills. She pointed out that students need to be reminded of the importance of developing language ability and cultivating virtues required before venturing into the workplace, as illustrated in the following:

One caveat needed here is that students may develop incorrect attitude toward studying and consider reading and school education useless after listening to stories of business people making millions and billions of dollars and seeing all those important and rich people in the business world. Some students complain that textbooks are useless and theories are boring as they naively only paid attention to interesting stories and successful working experiences told, and did not listen to the part when the field expert said she also read extensively to increase her knowledge. Personal charisma and insights, something important in the business world, does not come from nowhere. It is important to help students who do not like studying to understand that theories are derived from experiences and even though experiences may be the best option to understand the world, reading has its values and should not be abandoned.

Students still need to develop their English ability, and cultivate manners and virtues. They cannot dream of becoming successful and rich without those basic

requirements. It is important to let them know about the outside world, but they need to learn to walk before they fly.

3.3 Suggestions students and the ESP teacher have for the Business English course

Co-teaching courses helps to expand students' access to resources and expert expertise by inviting field experts from the community to the classroom. Some students suggested that the university should arrange more field experts to teach in the future. More detailed explanation of practical business operational procedures, field visits, and internship opportunities, were also required. As to the part of English lessons taught by the ESP teacher, some students reported that the content and teaching materials of English for business communication (e.g., writing emails, making telephone conversation, business negotiations, and giving presentations) are useful but more difficult; therefore, teaching hours on English skills should be increased and more examples of writing and practical advice should be given. Some students also suggested that the teachers should demonstrate how to conduct business conversation and negotiation and more practice opportunities should be included in the class to help improve their tactics of business communication.

The ESP teacher acknowledged her lack of business knowledge and hence a need for further training in order to cater for the learning needs and preferences of the students. She suggested that the universities organize more industry-academia cooperation activities to help ESP teachers experience the real business world and increase contact with business people.

I hope we can have more learning opportunities or workshops or see more favorable policy for us when we are applying for internship in a business company because we want to improve our knowledge and competency as ESP teachers to cater for the needs of our students.

4. Conclusion and implications

As discussed above, there are various problems with ESP and CLIL. From both the students' and the ESP teacher's responses, it can be seen that the industry-academia co-teaching by the field expert was helpful in solving many problems in the Business English course.

Besides learning about the abstract knowledge presented in textbooks and language items taught by ESP teachers in normal classes, students expressed their needs for taking ESP courses and hope to learn more about trading procedures and hear more real examples, which are what ESP teachers cannot offer. In a word, the co-taught Business English course was considered effective to meet the needs of students to acquire business knowledge and language skills. It was suggested that co-teaching courses should continue and internship opportunities should be offered to both the students and the ESP teachers to enhance the connection of industry and academia and to increase their exposure to industry resources.

Task-based business calculation activities used by the field expert were found to be an effective teaching method as the activities help students to focus on the task and understand the complex factors and procedures involved in international trading. As Sifakis (2003) suggests, ESP teachers can also enhance learners' problem solving ability with communicative task-based activities. It is suggested that ESP teachers can include more task-based English exercise (writing and conversation with real audience and authentic business purposes, games, etc.), as well as teachers' demonstration of business negotiation in the course.

As Ewer (1983) notes, most university ESP teachers have received a humanities education and may have spent most of their lifetime on researching and teaching, thus many of them may not have extensive or long-term working experiences in the industry. University

ESP teachers may argue that they also try to teach students not only professional knowledge and communication skills, but also the basic values of trust and responsibility, as well as the importance of showing good attitude, manners, and maintaining good social relationship. However, their efforts might not be as highly appreciated as that of the field expert. The secret may lie in the ability of the field expert to introduce concepts with vivid examples, personal stories, and task-based activities. Self-exposure and experience sharing were considered by the students to be effective methods of teaching. When introducing concepts of professional knowledge and procedures of practice of business, the field expert always had personal stories to tell the students, whereas the school teacher may have to rely on second-hand examples read in books or heard from friends.

In the present study, industry-academia co-teaching was reported by both the students and the ESP teacher as beneficial to their learning and career development. It can be seen from the present study that participating in the co-taught course has offered an opportunity for the ESP teacher to acquire subject knowledge, cultivate industry contact, and reflect on teaching methods. When given the opportunity, she is able to reflect upon her lack of auxiliary professional knowledge in business and problems in teaching methods (which are resulted from lack of business working experiences), and is willing to cross the disciplinary boundary and venture into the unknown in order to meet the teaching tasks at hand. Her situation is likely to be shared by many other English teachers. In the midst of our current knowledge explosion, it is inevitable that English teachers will have to take on more ESP and CLIL courses and teach areas outside their competence even if they do not have the relevant background knowledge or working experiences. Industry-academia interaction, internship opportunities, and training courses should be provided to help ESP and CLIL teachers to

develop multiple competencies and gain practical experiences in order to enhance their work experiences and improve their teaching performance. ESP teachers who are reluctant to changes also need to be reminded of the importance of continuous learning in a knowledge society and be encouraged to adjust their mindsets so they can positively react to challenges, possibilities, and their new roles as life-long learners and co-learners.

One problem of ESP courses in Taiwan is a lack of relevant curricula and materials that can reflect the needs of the industry (Lai, 2005). Since students reacted positively to the course content taught by the field expert and valued the lesson content and advice given by the business manager, it is suggested that future ESP and CLIL course curricula can be developed by consulting field experts' and students' opinions, to include subject knowledge, business procedures, and real examples in order to provide better courses that can reflect the real situation and cater to the needs of both the students and industry.

Another weakness of ESP teachers is their over-reliance on textbooks and a lack of authentic teaching materials. In the present study, the field expert gave lessons on concepts of trading and examples of business practices. The part of language teaching was taught by the ESP teacher. It is suggested that, in future ESP and CLIL classes, field experts can be invited to bring in company catalogues, business documents, email exchanges, presentation slides, contracts, etc., to be used as authentic teaching materials. Field experts and ESP teachers can also work together to develop academic teaching materials that could be augmented with authentic materials, examples, or stories of business practices to help EFL students to better understand business concepts and conduct.

In addition, as Jackson (1998) suggests, experienced ESP practitioners can document their practices to be used in ESP teacher education to help teachers make a stronger

connection between knowledge and practice. Successful and willing industry practitioners can be invited to document their experiences or give workshops for ESP teachers so that their valuable knowledge can be used both as training materials for ESP teacher education and as teaching materials for ESP courses. Future research should be conducted on students' satisfaction with authentic materials and curricula developed with the help of field experts, as well as the effect of ESP and CLIL training or internship course on teachers and students.

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Appendix

Table 1 Percentage of students' views on the co-teaching class

	SA	A	N	D	SD
1. I am satisfied with the teaching content of the field expert	30	63	7	0	0
2. I am satisfied with and teaching methods of the field expert.	23	63	13	0	0
3. The field expert's teaching helps me to have better understanding of the industry and business working environment.	27	63	10	0	0
4. The field expert's teaching helps inform me of English proficiency required in the workplace.	27	60	13	0	0
5. The field expert's teaching helps me to have better understanding of general competencies required of workers in business companies.	23	67	10	0	0
6. The field expert's teaching helps me to have better understanding of professional knowledge in trading and business.	33	57	10	0	0
7. The field expert's teaching helps me to have better understanding of business procedures.	27	63	10	0	0
8. The field expert's teaching helps me to have better understanding of company organization.	20	67	13	0	0
9. The introduction of business concepts and practices by the field expert helps me to become more aware of the industry culture.	27	63	10	0	0
10. The sharing of the field expert's practical experiences exposes me to the values of business industry.	20	67	13	0	0
11. The field expert's teaching helps me realize the importance of cultivating business ethics.	30	53	17	0	0
12. The field expert's teaching helps reduce my anxiety about future career development.	23	63	13	0	0
13. The field expert's teaching is beneficial to my practical learning	30	57	17	0	0
14. The course helps me understand how to integrate business knowledge and language competency into use.	27	53	20	0	0
15. Teaching of the expert teacher helps me understand the appropriate manners professionals should display in the business world.	23	57	20	0	0
16. Teaching of the expert teacher helps me understand the importance of maintaining social relationship in the workplace.	23	60	17	0	0
17. Teaching of the expert teacher helps me understand possible challenges I may encounter in the workplace.	20	70	10	0	0
18. The field expert's teaching helps me to become better motivated in learning about business English.	20	67	13	0	0
19. The field expert's teaching helps me have better understanding of the use of English in business.	27	60	13	0	0
20. The field expert's teaching helps me to have better comprehension of the Business English lessons taught by the EFL teacher.	23	63	13	0	0
21. The field expert's teaching helps me to achieve better learning results in the English learning.	27	53	17	0	0
22. I think courses with the field experts are more useful for me than those only taught by the school teachers.	30	60	10	0	0
23. The content taught by the field expert is relevant to the English lessons taught by the EFL teacher.	23	67	10	0	0
24. I think the collaboration of the field expert and the EFL teacher is appropriate.	20	67	13	0	0

SA= strongly agree; A=agree; N= neutral; D=disagree; SD=strongly disagree

An Investigation into the Errors in English Writing of L1 Arabic ESP Learners

Andrew Milewski

Al Khaffi Joint Operations, Saudi Arabia

The University of Nottingham, The United Kingdom

Biodata

Andrew Milewski has been teaching at International House Saudi Arabia since 2011. He has previously taught in schools and language centres in the UK and South Korea. He currently teaches ESP in-house at an oil company in KSA and his research interests are generative grammar, error formation and second language acquisition.

Abstract

The problems encountered by students of English as a Foreign Language (EFL) and English for Academic Purposes (EAP) whose mother tongue does not adequately correlate with the target language have been extensively researched. The problems encountered by Saudi Arabian students of English for Specific Purposes (ESP) have been studied less than other students. Existing studies have usually focused on a specific type of error source instead of providing an overview of all error sources or examining ones not related to negative L1-L2 transference. This research paper looks at sociolinguistic and cultural factors when explaining error formation. This is a new approach not employed in previous publications. The problem of repeated errors over a significant period of time has been considered and recommendations for teaching strategies have been made to overcome this problem. It should be noted that the

type of research samples for this study did not illuminate many cultural and socio-linguistic factors responsible for error formation. In this regard recommendations have been made for further research.

1. Introduction

1.1 Background

Negative L1-L2 inference refers to instances where Arabic students apply their knowledge of Arabic grammar when producing written English assignments. In other words, their Arabic 'contaminates' their English. The paper examines the written assignments of Saudi Arabian ESP students and analyzes a range of error type – errors which are classified and analyzed with reference to the error category source. The distribution of error source to error type is also considered. It was found that the commonest errors were grammatical, syntactic and semantic. There were other frequent error types prevalent in the research samples, namely errors of punctuation and composition. It is argued that L1-L2 transference issues are only partly responsible and a comparative study of English and Arabic language systems is used to show this. There is an exploration and investigation of other factors responsible for error formation, factors that are not related to L1-L2 transference.

English writing skills are becoming increasingly important in the workplace in Saudi Arabia. This is especially true of major petrochemical companies, many of whom have subsidiaries overseas and most of whom employ varying numbers of Westerners. With the onset of 'Saudization' there is great demand for Saudi workers who are competent in written English.

Large companies such as Saudi Aramco, Gulf Farabi, SABIC and Khafji Joint Operations require senior employees to have at least a C1 level of English on the Common European Framework. In order to achieve a C1 level, all senior employees must demonstrate the ability to compose writing assignments of a high standard to pass the course. Nonetheless, it has become increasingly common for these students to make errors in writing that one would expect to make at lower levels. This view is based on my experience of teaching a variety of EFL levels to Arabic learners, both in the UK and in Saudi Arabia. In simpler terms, the same errors are being repeated – with, in some cases, a lower degree of frequency. Even without any research, one would reason that as students' English skills become more advanced, the frequency of basic errors would lessen – being replaced by different errors involving higher level interlingual transference requirements or the usage of more advanced grammatical or semantic language features. This is an illogical pattern of error occurrence. It might also be suggested that there is something unique, something innate about particular mistakes common through the range of EFL ability levels for Arabic learners. It is this chain of reasoning that leads us to an examination of the structural writing of classical Arabic as a language system – in particular how students apply their knowledge of, for example, the grammar rules of Arabic to the composition of a report in English. It has become clear through error analysis that some errors cannot be accounted for through negative L1-L2 transference issues. Dweik and Shakra recognize, for example, the problems of collocation, stating that '...their combination of rules is not simply a matter of association of ideas but...is 'idiosyncratic' and cannot be predicted from the meaning of associated words...' (Dweik & Shakra: 2011). This is an important issue. Consider the student who needs to translate an idea expressed in an idiomatic phrase whose meaning is clear in Arabic. He might easily

transliterate the words of an idiom into English. This could render the phrase meaningless for three reasons. This method of translation is exposed to the semantic and grammatical differences between the students' L1 and L2. For example, the word order may differ – requiring some interpretation on the part of the reader. Secondly, the idiom may not exist in English. Finally, even if it does, it may have a different meaning within the cultural context that the idiom exists. The cultural context of language must also therefore be given due consideration when examining the errors of students. The paper also considers students' own proficiency in their L1. Some attention is devoted to the Saudi government education system and its impact on the ability of students to apply their specific thinking skills to the problem of translating ideas to written English. For the sake of simplicity, this paper adopts and adapts the error analysis methods pioneered by Abi Samra (2003) in her seminal work entitled 'Arabic Speakers' English Writings'.

1.2 Research questions

In the written work of Arabic ESP students:

1. What is the distribution of errors across error category?
2. How important is the role of negative L1-L2 transference behind error formation?
3. How significant are socio-linguistic factors in relation to error formation?
4. Is there any correlation between student level and the number of errors due to intralingual factors?
5. What are the recommendations for teaching writing?

1.3 Hypothesis of the study

Arabic ESP students from A2-C1 level on the Common European Framework (CEFR) encounter serious problems when composing a variety of written texts. These problems stem from a combination of the following: inappropriate methods of English language teaching in Arabic schools, interlanguage (IL) grammar transference, socio-linguistic factors that affect the translation of meaning into the target language and students' perceived importance of writing skills in the Saudi workplace.

2. Literature review

ESP is divided into EAP [English for Academic Purposes] and EOP [English for Occupational Purposes]. EOP itself is sub-divided into business English, professional English (e.g. English for doctors, lawyers) and vocational English (e.g. English for tourism, aviation and nursing). This study focuses on the teaching of writing in General English & Business English.

2.1 Theoretical studies

The error formation by Arabic students has been widely researched across a variety of educational sectors. Early research conducted by Harrison, Prater and Tucker (1975) focused on Jordanian government policy in relation to the teaching of English in the secondary sector, research that was conducted in response to the performance of the students of Jordan University who enrolled in English language courses. Abdul Haq (1982) and Zaghoul and Taminien (1984) recognized that 'one of the major areas where Arabic students demonstrate deficiencies is in the writing process'. Their research, although useful, focused largely on the

problems demonstrated by Arab students whilst at HE institutions across a number of Middle Eastern countries. Detailed analysis of the reasons behind this and appropriate pedagogical solutions were not included. Rababah (2002) was arguably the first researcher to make an empirically evidenced connection between the educational background of the students of Saudi Arabia (tertiary levels) and their communicative competence at the University and at the employment level. He cited Zaghoul (1984) in concurring that, 'rarely does a department...offer solid language training, i.e. training in term-paper writing or speech...' Interestingly, Suleiman (1984) also pioneered the idea, at the same time as Zaghoul that 'mother tongue interference is not the only factor responsible' for the error formation found in the written work of Arabic students. It was these studies that paved the way for second language acquisition (hereafter referred to as SLA) researchers in the 1990s and beyond into the matter.

The approaches taken by researchers in the 1990s were conducted within the context of a generative grammar approach to SLA and in the light of the publications of the last decade, seem somewhat misdirected. Epstein, Flynn, & Martohardjono (1996) in addition to Eubank (1994) took their ideas regarding SLA from the controversial universal grammar (hereafter referred to as UG) theories of Chomsky developed in the early 1960s. A strong case has been made by more recent researchers, including Abi Samra (2003) and Bee Eng & Muftah (2011) that UG theories are not helpful in providing an insight into error formation. This linguistic paradigm is formed from the understanding that the existence of UG, if indeed exists at all, should allow for the successful translation of Arabic meaning into English writing, since certain grammar universals exist. If UG is, as Chomsky theorized, 'an innate language faculty equipped with abstract principles of grammar and parameters' (2000) then I

concur with Muftah and Eng (2011) who postulate that UG must by definition restrict the ability of IL representation, thereby limiting the ability of L2 learners to accurately translate L1 meaning. It can strongly be argued that it is not reasonable to account for error formation by way of solely referring to the limitations of IL representation, since some errors cannot be accounted for by way of reference to L1-L2 transfer.

In the 1990s publications regarding L2 acquisition and L1-L2 transfer in Arabic students tended to focus on ‘verifying the availability of UG in L2 learners’ (Muftah & Eng, 2011). From the 1990s to the present, the focus of L1-L2 transfer research has shifted from verification of UG availability to a study of the properties of IL grammars. The publications of the last decade in this area, specifically Abi Samri (2003), Al-Khasawneh (2010), Dweik & Abu Shakra (2011) and Muftah & Eng (2011), form the context against which the findings of this research are presented.

2.3 Empirical studies

The question as to what extent ESP learners’ Arabic (L1) ‘contaminates’ their English (L2) is a pertinent one, given the corpus of research in this area. Researchers are interested in error formation because these reveal important information about strategies people use to acquire a language (Richards, 1974; Taylor, 1975; Dulay and Burt, 1974). The publications of the early 1970s were empirical in nature, focusing on error analysis as a tool to determine the extent of the involvement of L1-L2 transference issues in causing errors. The SLA researcher Abi Samra focused her work in this field on this very question. Her 2003 paper concluded that negative L1-L2 transfer only accounts for a third of error formation. It was postulated that the reasons behind error formation could be placed into two categories which are defined below:

1. Interlingual/transfer errors: those attributed to the native language, when the learners' L1 habits stop him/her, to some extent, from understanding and applying the grammatical rules of the second language.

2. Intralingual/developmental errors: those because of the language being learned, regardless of the native language. According to Richards (1970) they are mistakes that do not reflect the structure of the mother tongue but rather 'generalizations based on partial exposure to the target language ... the learner ... may develop hypotheses that correspond neither to the mother tongue nor the target language (Richards, 1970, p.6).

More recent empirical research tended to focus on studies stemming from cross cultural and instruction based approaches to data collection, focusing specifically on the role of negative L1-L2 inference. I follow here the approach taken by El-Sadiq (2000) in examining studies stemming from a cross cultural approach, indeed those that use or refer to a control sample taken from native speakers' written work. The second category mentioned above deals with instruction-based studies, studies that postulate that the method of instruction is in some way responsible for the deterioration or low quality of Arab learners' written work.

The studies of Doud (1998), Al-Khuweilah and Al-Shoumali (2000) and Al-Jamoor (2001) all researched writing problems within a cross cultural framework. Doud's work focused on the role of exchange strategies in improving Arab learners' writing skills. An interesting method of data collection was used here, whereby fifty Syrian ESP medical students were required to write an essay which was then exchanged with their American counterparts. It was concluded that the students lacked both the vocabulary and expressions to write convincing arguments – and in some cases, the students were unusually aggressive toward their American counterparts. The conclusions also pointed to negative L1-L2 inference as a root cause of issues but demonstrated a need for further research into

unexplained errors. The second significant cross cultural empirical study was conducted by Al-Khuweilah & Al-Shoumali (2000). Here, a wider range of research data was used, with almost 150 students at the University of Science and Technology submitting essays for the purposes of this study. The conclusions were not ground-breaking, but simply reaffirming the theory that poor writing in students' L1 resulted in similar errors in the students' target language. The final study was perhaps the most relevant to this paper. Data collection was comprised of 50 undergraduate students at Imam University in Saudi Arabia whose essays were compared with a control group of 50 essays from native speakers, in this case students from Michigan State University. The results showed that Arabic students used far fewer conclusions and fewer t-units, regardless of whether or not they [t-units] were grammatically correct. However, more discourse units were noted – and whilst my own research data did not use a control, the results showed similar writing issues.

The research undertaken by Al-Hamzi (2006), Al-Hamzi and Schofield (2007) and Fitz and Glasgow (2009) all dealt with instruction-based studies. Some of their conclusions are supported by my own, in terms of the best way to teach writing to Arab learners, as will be explained in the conclusion to this review.

Al-Hamzi (2006) initially postulated that Arab learners' writing suffers due to 'traditional teaching approaches that render it depersonalized, abstracted and purely product orientated' (Al-Hamzi: 2006). However, an extremely poor research sample was used here, students had only to fill in open ended questionnaires rather than produce substantial pieces of work which could then be analyzed. He concluded that these learners' written problems could only be resolved by reverting to the 'process approach' to writing, since it is particularly suited to addressing the skills of critical thinking and self-evaluation. The following year though, his

research went further and in a joint paper co-authored with Schofield (2007), a more substantial research sample was used which was analyzed in some detail. However, the results of this were disappointing, indeed the quality of student work was so poor that it was concluded that students were not ready to abandon the 'traditional surface error focus' of their classroom. It was noted however, that the majority of student errors were grammatical and substance related – conclusions that are supported by my own findings. By far the most illuminating work came two years later, when Fitz and Glasgow (2009) embarked upon research intended to 'improve tense formation in Arab learners' EFL writing'. The subjects of the study here were low-level students at Dubai Women's college in the UAE. The main finding, which is in line with the findings of Ali Muftah and Eng (2011) is that the grammatical accuracy of students' writing can be noticeably enhanced by providing teacher-led grammar instruction prior to independent writing. This approach advocated by Fitz and Glasgow (2009) advocates a bottom-up approach to writing where mastery of linguistic competence is deemed a necessary condition for writing. It should be noted however that this approach would not achieve theoretical support in the post-discourse era of pedagogical approaches to writing.

Cross cultural studies have essentially revealed rather straightforward conclusions. In all three of the researchers' studies, students' written work was found to be lacking in grammatical accuracy, appropriate vocabulary and demonstrative of structural deficiencies. Al-Khuweilah and Al-Shoumali (2000) came to similar conclusions regarding negative L1-L2 transfer. However, little information was given as to the extent of this error source. Instruction-based studies, by contrast, were more helpful in specifically advocating pedagogical approaches to solving the writing problems of Arab EAP and ESP learners. Al-

Hamzi (2006) advocates the process approach to teaching writing – something which I concur with in my own discussions. Fitz and Glasgow (2009) advocate grammar-based instruction prior to allowing students to write anything – a rather traditional approach when if presented to students in an interesting manner would yield effective results. Additional studies were conducted in 1972 by Selinker (in Richards, 1974, p.37) which concluded that there were five sources of errors:

1. Language transfer
2. Transfer of training
3. Strategies of SL learning
4. Strategies of SL communication
5. Overgeneralization of target language (TL) linguistic material

The evolution of research detailing error source is interesting, as researchers have chronologically added to previous findings. Of particular interest are the findings of Richards and Sampson (1974) that identified seven factors affecting error formation:

1. Interlingual negative language transfer
2. Intralingual interference caused by:
 - a) Overgeneralization, b) Ignorance of rule restrictions, c) Incomplete application of rules, d) Semantic errors that include creating false concepts/systems in the TL
3. Sociolinguistic situations: these include motivation (instrumental or integrative) and the setting for language learning (compound or co-ordinate bilingualism).
4. Modality
5. Age: learning capabilities and capacities vary with age
6. Successions of approximative systems: a school of thought theorizing that the acquisition of new lexical, phonological and syntactic items varies from person to person.

7. Universal hierarchy of difficulty: an obscure theory concerned with the ‘inherent difficulty for man of certain phonological, syntactic, or semantic items or structures. Some forms may be inherently difficult to learn regardless of learner background’ Abi Samra (2003).

Richards and Sampson’s (1974) research identified the majority of factors affecting written error formation – that is beyond dispute. What is less clear is a mathematical allocation of error source to certain categories. As has been mentioned, Samra concluded that a third of errors resulted from negative L1 transfer, but errors were categorized into two only. However credible the empirical conclusions, one must examine the ‘developmental error’ category and decide if it can solely account for the other two-thirds of errors. The conclusions of this research have led me to my hypothesis – sociolinguistic factors, including cultural differences in meaning, should also be included in error categorization. It should be noted, largely because of the amount of disagreement in the SLA community, that certain errors could be explained in different ways – especially given the research methods used for this study.

3. Research procedures

A corpus was compiled of written work, following procedural guidelines established by Ellis (1995, pp. 51-52), consisting of ten samples students of different EFL abilities, ranging from pre-intermediate (B1) to upper intermediate/advanced (C2). The first research sample was taken from a writing assignment that formed part of the International House placement test for Saudi Arabian ESP students who are employees at Saudi Basic Industries Corporation (SABIC). Whilst 20 students were tested, I selected 5 answers which varied in quality from Level 1 (equivalent to Elementary on the CEFR) to Level 6 (equivalent to Upper

Intermediate/Advanced). For the placement tests, students had to write an essay with the culturally appropriate topic, ‘What would you do if you won five million riyals?’

The second research sample was taken from writing assignments that formed part of my own pre-intermediate ESP syllabus. The in-company student level system in Saudi Arabia separates ESP courses into levels, again ranging from B1 – C2. These students were B1 level and studying English to complete their grading requirements for promotion within the company. They are all employees, from a range of departments, of Al-Khafji Joint Operations, which is a partnership between Kuwaiti Oil Company and Saudi Aramco Oil Company (KJO). The course assignment was ‘Describe a normal working day at Al-Khafji Joint Operations’. Students in both cases had to write between 150-200 words and were given 1.5 hours to complete this task.

3.1 Error identification and categorization

Abi Samra’s (2003) error analysis methods as laid out in her study entitled ‘An Analysis of Errors in Arabic Speakers’ English Writings’ (pp.13-14) have been adapted for the purposes of this study. What Samra’s methods have not encompassed is sufficient reference to the sociolinguistic and cultural interference responsible for error formation. This has been remedied in this paper. The Taxonomy for Error Analysis is based on Samra (2003) and includes the following categories and sub-categories:

Grammatical: Prepositions, articles, reported speech, singular/plural, adjectives, relative clauses, verb tenses, irregular verbs and the possessive case.

Syntactic: Coordination, sentence structure, nouns and pronouns and word order.

Lexical: word, collocation, idiom choices and phrasal verbs.

Discourse: errors in the organization of ideas.

Semantic & Substance: mechanics: punctuation, capitalization and spelling.

Having set the categories, the error sources were selected based on the explanatory methods described in the literature review. These are namely Interlingual (negative L1 Transfer), Intralingual (developmental), and Ambiguous (could be explained by either Interlingual or Intralingual issues) or Unclear (Corder, 1974; Richards, 1974; James, 1998; Selinker, 1972 cited in Richards, 1974; Richards & Sampson, 1974) and fused to create a model for error analysis by Samra (2003). This paper provides an analysis of the errors demonstrative of a cause that is unclear, to ascertain the relevance of cultural or sociolinguistic factors.

The results are tabulated and categorized in the appendices to this paper. A comprehensive analysis of error distribution and occurrence is also given.

4. Analysis of findings and discussion

The total number of errors found was 110. This means that on average, each student made approximately 11 errors per written assignment. This is a significant quantity of error formation, without taking account of *mistakes* as opposed to *errors*. Grammatical errors accounted for 36% of the total, syntax [errors] 15%, lexical 5%, semantic 2%, discourse 15% and substance-related 28% of the total. These results are shown in Figure 1.

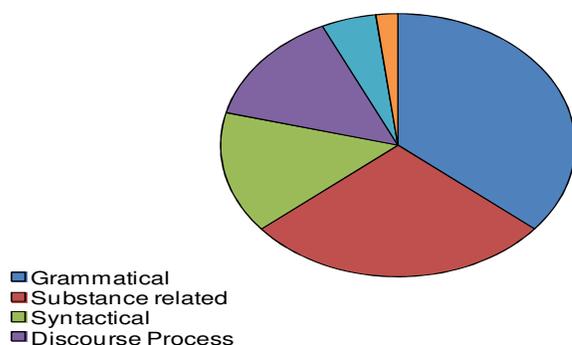


Figure 1: Error types

With reference to our first research question, it is clear that grammatical and substance-related errors accounted for 64% (approximately two-thirds) of all errors. Whilst Intralingual factors are mostly responsible for substance related errors, grammatical errors are caused by a variety of factors. This is interesting. If we examine some substance made and how they might be, prevented in the future:

1. 'I like Khafji because it's my family the weather in summer is very hot, but the best weather in spring and favourite food is kapsa and fish.

This demonstrates a variety of errors, ranging from incorrect punctuation usage (omission of full stops, capital letters) to subject-clause agreement ('my family' on its own doesn't explain why the writer likes Khafji.). This simply affirms that the student has not received correct teaching regarding writing basics, which include grammar and sentence formation. It points to deficiencies in the student's own educational background, or poor language teaching in high school.

Another example of intralingual factors can be found in the spellings of some English words. If we look at the following:

1. Beginig
2. Mather
3. Forman
4. Supurmarkit
5. Tolites

These words are examples of the students writing the spellings of the words the way they sound – a common practice in Arabic but a disastrous move in English. This cannot be said to be a case of interlingual transference issue. It was because of the lack of knowledge of English spelling conventions or simply a case of having incorrectly memorized some English words.

When we examine the grammatical errors clearly, it is observed that negative L1-L2 transfer features as a more common error source. Consider the following examples:

1. If I won 5 million riyals I will make a scheduled for my needs.
2. Moreover I going to married four women
3. In my free time I visiting my father, mother and sister.

These are all examples of students applying their knowledge of Arabic grammar to English sentences. In the first case, the student has got the form of the second conditional wrong, in the second the student has omitted the auxiliary verb 'to be' and unnecessarily put 'marry' into the past. This is because in Arabic there is a single present tense and no auxiliaries 'to be' or indeed 'do' (See Appendix two). The same rules apply to the mistakes in sentence three. Clearly then, mistakes that originate from the misapplication of Arabic grammar, possibly because the student does not possess an adequate knowledge of English grammar will be largely interlingual in nature.

As to the role of Interlingual/Negative Language Transfer issues, we can conclude the following: of the total number of errors committed by students, 42 (or 38%) resulted from Interlingual/Negative Language Transfer. It is important here to put this figure into context by comparison to other error sources and prior empirical research in this area. In Abi Samra's (2003) study, it was concluded that interlingual factors accounted for 33% of all errors which is slightly lower than my own findings (see Figure 2 below).

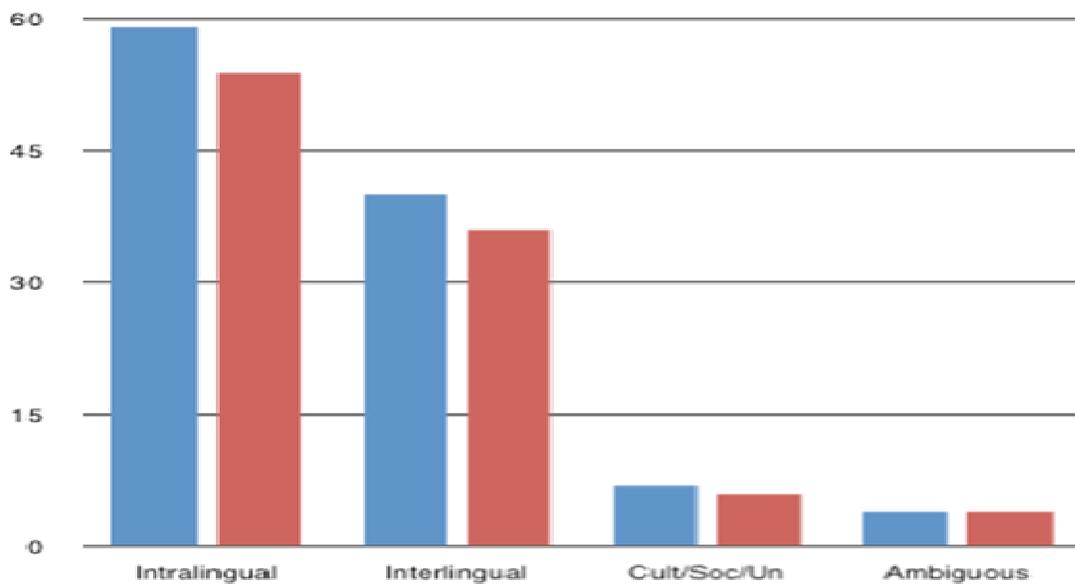


Figure 2: Error sources

It is somewhat surprising that negative interlingual transfer was responsible for only a third of all errors. Before embarking on this study, and after analyzing much of the theoretical and some empirical research, I had reasoned that negative L1-L2 transfer would be responsible for a substantial proportion of all errors. My own findings are highly consistent with the conclusions of Abi Samra (2003). However, it had been the conclusions of Muftah and Eng (2011) and Dweik & Abu Shakra (2011) that had postulated a more significant role for L1-L2 transfer.

Despite evidence collated by Abi Samra (2003), I had reasoned that students at a lower level (B1 on the Common European Framework (CEFR)) would be less 'afflicted' by Intralingual factors – especially developmental. This is because they would not have studied EFL for long enough to allow for a significant degree of developmental problems to occur. Samra's results (2003) concluded that negative L1-L2 transfer accounted for 33% of all errors. She attributed the other 67% of student errors to intralingual factors. Since my research sample is from students at B1 level (pre-intermediate) whereas Samra's were C2 (upper-intermediate), my results show that only 59% of errors at this level can be attributed to intralingual factors.

This demonstrates, albeit very tenuously, the possibility of a connection between student level and number of errors due to intralingual factors. That is to say, as the student level increases, so does the percentage of error due to intralingual factors. This provides significant scope for further research in this area.

My results here are consistent with the findings of Rabab'ah (2003) and Al-Khasawneh (2010) who assert that at low ESP levels, students often suffer from 'language instruction from teachers who are native speakers of Arabic' and 'the limited opportunities Arab learners have to learn English through natural interaction in English' (Al-Khasawneh: 2010, p. 2). However, the connection between student level and proportion of student error attributable to intralingual factors is an interesting area for further research; any such research would need to refer to psycholinguistic theory to provide a credible and comprehensive answer.

Our third research question deals with the role of cultural and sociolinguistic factors. With reference to Figure 2, for this research sample at this level, it is clear that cultural and

socio-linguistic factors are not significant when compared with other error sources. However, the nature of the research sample played a strong role in determining these results. If the research sample were a set of translated sections of the Koran - a heavily metaphorical text, then clearly culture and society play a stronger role in meaning transfer than the research sample used. This is supported by the findings of Bader and Abu Shakra (2011) who assert that 'cultural diversity between the two languages is a hindrance in translation' (2011: p35). Indeed, their study focused on translated collocations at MA level – a research sample heavily biased towards results indicating cultural and sociolinguistic interference. It is recognized here that 'lexemes differ in their collocability from one language to another and what collocates in one language does not necessary collocate in another'. The same can be said of my own data. Take the example, 'Inner money is better than outer money' (p. 22). What the student meant was:

'Inner wealth is better than outer wealth', [الخارجي الثروة من أفضل هو الداخلي الثروة]

In other words, it is better to be a good person rather than be rich. However, there are many steps involved in arriving at an English translation of an Arabic proverb. Firstly, the student needs to possess sufficient language capabilities to translate each individual word. Then, the correct word needs to be substituted for the Arabic equivalent and finally the student needs to decide on the word order. Even after this, the cultural meaning in Arabic may be different – and in this case clearly 'inner wealth' means something different to 'inner money'. We might surmise that the student does not know the word 'wealth' or that he considers 'wealth' to be the wrong word for this particular collocation. There are multiple possibilities here, which is why one might sympathize with errors made when translating a text imbued with cultural context. Clearly then the most common source of student error is Intralingual factors, whilst negative

L1-L2 transference factors account for just over a third of all errors. Figure 2 takes the research of Abi Samra (2003) further in statistically accounting for all error sources.

5. Summary and conclusions

The conclusions of this study are brief. Figure 1 clearly provides an answer to the first research question. Essentially, the majority of errors are grammatical and substance-related, accounting for a combined 64% or approximately two-thirds of all errors. Interlingual errors only account for 38% of the total errors which was surprising, although not erroneous within the context of previous research. Finally our data analysis demonstrates that cultural and sociolinguistic factors (or error sources that are unclear) only account for 4% of all error sources.

5.1 Recommendations for teaching

Having concluded through theoretical and empirical research that Arabic L1 ESP learners make the majority of their written errors because of interlingual transference and intralingual factors. It is apparent that we should reflect on how best to teach writing as a skill. With many ESP syllabi focusing more on speaking and other communication skills, this is problematic. The significant majority of ESP in Saudi Arabia is geared toward teaching technical English and English for the Oil and Gas industries – work-based courses that place grammar, vocabulary, writing and reading skills within work-based contexts. Nevertheless, there are core writing skills that students need to know, regardless of the genre. For example, students should always complete a first draft of their written assignment, an inspection report for example. When assessing the first draft, the instructor should use a previously agreed marking

system which clearly demonstrates the error and the type of error. The student should make the necessary corrections and then write a final version. This procedure will iron out many basic errors paving the way for students to engage with the more advanced conventions of the written genre at hand. Indeed, this is the approach adopted for many general English, FCE, CAE, CPE and IELTS courses. There is no reason not to adopt this for ESP courses too.

Secondly, Arabic learners in an intensive ESP course rarely gain enough exposure to authentic materials of the target genre. Learners need to see real life examples of written reports, memorandums, formal emails, circulars, application forms, and curriculum vitae's to name a few. I suggest using computer-assisted language learning techniques (CALL) to allow students to interact with examples of authentic materials. A model activity for this can be described below:

1. Students are introduced to topic/written genre.
2. Students are put into groups of three and given authentic examples of the target genre.
3. Working collaboratively, students identify specific conventions generic to each authentic example.
4. Students use a PowerPoint slide/Smart Board to mount a resume with the headings removed.
5. Students come to WB and drag and drop the appropriate headings above the correct section of text.
6. Students explain and justify their choices to the rest of the class.

This particular activity could be adapted, considering student level, age or type of written text/assignment. Thirdly, another crucial aspect of teaching writing is the presence of model answers. An instructor could select exemplary assignments from previous students and ensure that his/her current students study them to identify the positive features that make them

exemplary. Any activity such as this should be carefully structured and guided to prevent confusion and misunderstanding.

Last and most important is the need to justify the importance of good English writing skills. Many Arabic ESP learners are poorly motivated; indeed, it is usually not their choice to study ESP or general English at work. This is especially true for older students with many years' experience working for their employer. Writing skills need to be 'sold' and 'marketed' with reference to their use both within and outside the work environment. If these students reach positions of responsibility, competencies in written English become a core requirement for most of the large companies in Saudi Arabia as specified by senior management.

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APPENDIX 1

Error Source Classification System

- Adapted from Samra (2003)

Error Category	Error Sources	Abbreviations
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	<p>A – INTERLINGUAL: L1 (negative) Transfer / interference</p> <p>B – INTRALINGUAL: Developmental / analogical errors [Corder, 1974; p130] or overgeneralization of TL rules (Selinker, 1972 in Richards, 1974). Ignorance of rule restrictions Incomplete application of rules: under-generalization e.g. i working was for SASREF (Abi Samra, 2003; p39) Building of false concepts, systems (Samra, 2003) Morphology/3rd person singular ‘s’, ‘ed’ ‘ing’ Concord + Phonological error (James p154) Omissions/avoidance because of ignorance.</p>	<p>InterL/L1T</p> <p>IntraL</p> <p>Dev</p> <p>OG</p> <p>Ign</p> <p>IncompR/UG</p> <p>FC</p> <p>Mor</p> <p>Concord/Phono</p> <p>Om/Av</p>
<p>Grammatical Errors</p>	<p>C- AMBIGUOUS Could be explained by reference to A or B or A & B.</p>	<p>Amb</p>
	<p>D-CULTURAL, SOCIOLINGUISTIC or UNCLEAR</p> <p>False analogy Collocation error Idiomatic error Cross-association of semantic ideas Lack of genre knowledge or practice Error not explained by reference to A, B or D (UNCLEAR) L1 pronunciation transfer issue</p>	<p>Cult/Soc/Un</p> <p>FA</p> <p>CE</p> <p>IE</p> <p>CASI</p> <p>GK</p> <p>Un</p> <p>L1PrTI</p>
<p>Syntactic Errors</p>	<p>A – INTERLINGUAL: L1 (negative) Transfer / interference</p> <p>B – INTRALINGUAL: Phrase structure errors = Misselection / Misordering Clause errors = omitted, Misordered, Misselected, Blend Sentence errors = discourse & coherence Intersentence errors = cohesion</p>	<p>InterL/L1T</p> <p>IntraL</p> <p>Missel/</p> <p>Misord</p> <p>Om</p> <p>BL</p> <p>Cohr</p> <p>Cohs</p>

<p>Lexical Errors (word/collocation /phrase/idiom choice)</p>	<p>A – INTERLINGUAL L1 (negative) Transfer / interference</p> <p>B – INTRALINGUAL/Developmental: Confusables (James p145-147) Distortions – form nonexistent in TL (James p150)</p> <p>D-CULTURAL, SOCIOLINGUISTIC or UNCLEAR False friends / deceptive cognates resulting in; Collocation and Idiomatic error Lack of genre knowledge or practice Error unexplained by A and/or B</p>	<p>InterL/L1T</p> <p>IntraL/Dev Conf Dist</p> <p>Cult/Soc/Un FF/DC CE/IE GK Un</p>
<p>Semantic Errors</p>	<p>A – INTERLINGUAL L1 (negative) Transfer / interference</p>	<p>InterL/L1T</p>
<p>Discourse/ Process (Organization/ Transition words (TW) Support process, Logical Progression, Flow of ideas)</p>	<p>A - INTERLINGUAL L1 (negative) Transfer/interference</p> <p>B – INTRALINGUAL / Developmental: Relevance, clarity, development, originality (James, p61 in Samra, 2003, p40) Coherence / content Cohesion</p>	<p>InterL/L1T</p> <p>IntraL/Dev Rel/Cl/Dev/Or ig Cohr Cohs</p>
<p>Substance (Mechanics and Spelling)</p>	<p>A – INTERLINGUAL L1 (negative) Transfer/interference</p> <p>B – INTRALINGUAL / Developmental Punctuation including capitalization Convention of Spelling Sound spelling, phonetic near misses</p> <p>D – CULTURAL, SOCIOLINGUISTIC or UNCLEAR L1 Pronunciation Transfer Issue</p>	<p>InterL/L1T</p> <p>IntraL/Dev Punc SpConv SdSp/ PhonNM</p> <p>Cult/Soc/Un L1PrTI</p>

Methodology

Table B – Error category analyzed by source, adapted from Samra 2003

Error Category Error No. & % due to A/B/C or D	Error Sub-Category	No of errors in sub. cat.	Examples	Error Sources Coded by colour
Grammatical Errors	Prepositions & particles ▼ = omission (of preposition)	9	know that the people <u>at</u> all over... but <u>at</u> the beginning... for my needs <u>at</u> sequence <u>from</u> the most important needs to the... I will buy a jeep <u>with</u> a reasonable price. I will buy a new car made 2011 I work ▼ KJO as a contractor. My company is ▼ Al-Khafji. I am a data controller <u>in</u> KJO.	InterL/LIT Ign negLIT InterL/LIT IntraL IntraL Intra/Dev FC/OG
Articles		11	know that <u>the</u> people it's nature to like <u>the</u> money I will make ▼ schedule for my needs I'll buy ▼ 2011 CL Mercedes Benz car. I will spend all <u>the</u> money... I will open ▼ supermarket I will buy ▼ new car and house send oil to its refiners to <u>the</u> kerosene, naptha, gas and other... I live in ▼ big house My family lives in the Hail in North Area. Al-Khafji is ▼ quiet city	InterL/LIT InterL/LIT InterL InterL InterL Neg LIT InterL Neg LIT Neg LIT

<p>Reported Speech</p>	<p>0</p>	<p>n/a</p>	<p>n/a</p>
<p>Sing/Plural</p>	<p>6</p>	<p>I will spend all <u>the money in its</u> correct ways. give 2.5% of my savings to charity I will give it I will visit <u>10 country</u> in the world I will travel to <u>all country</u> I have a wife and <u>five childrens</u> I have five childrens</p>	<p>InterL Dev/OG InterL InterL Dev/OG Dev/OG</p>
<p>Adjectives</p>	<p>3</p>	<p>...most important needs to the needs which are not much required...' And help the people who are very poor to share me in my happiness I will spend all the money in its <u>correct</u> ways</p>	<p>InterL Cult/IE Cult</p>
<p>Relative Clauses</p>	<p>3</p>	<p><u>At the beginning</u>, all know that the people at all over the world <u>they</u> like money so it's natural... My house six rooms and dining room and two living rooms and four toileys...[continued repetition of 'and'] I play with my children in free time and I watch television Moreover I going to married four women and I give my father and mother and my brother ▼</p>	<p>InterL InterL IntraL Ign IntraL Om/Av InterL Un</p>

Irregular verbs	0	<p>If I won 5 million riyals I will make a scheduled for my needs...</p> <p>Moreover I going to married four women</p> <p>Crude oil is taken from the ground by Aramco. Aramco will send it...</p> <p>In my free time I reading newspapers</p> <p>In my free time I visiting my father, mother and sister.</p> <p>I staying in my home...</p> <p>On holiday I am visiting my friends...</p> <p>I work for KJO since 1983.</p>	
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	<p>8</p> <p>Tenses (wrong tense) + omission of 3rd pers. "s" + agreement of tenses</p>	<p>If I won 5 million riyals I <u>will</u> make a scheduled for my needs...</p> <p>Moreover I <u>going to married</u> four women</p> <p>Crude oil is taken from the ground by Aramco. Aramco <u>will send</u> it...</p> <p>In my free time I <u>reading</u> newspapers</p> <p>In my free time I <u>visiting</u> my father, mother and sister.</p> <p>I <u>staying</u> in my home...</p> <p>On holiday I am visiting my friends...</p> <p>I work for KJO since 1983.</p>	<p>Amb InterL InterL InterL InterL Dev/Concord IncompR/UG</p>
<p>Syntactic Errors</p>	<p>7</p> <p>Co-ordination Beginning with connectives (‘and/so’ are the most common)</p>	<p>So its nature to like the money</p> <p>So if I won 5 million riyals</p> <p>And a lot of things</p> <p>And help the people who are very poor</p> <p>And also I have a wife and five children</p> <p>And I have a white cat that for my children</p> <p>Also I will buy a new company and house</p>	<p>InterL/L1T InterL/L1T InterL/L1T InterL/L1T InterL/L1T InterL/L1T InterL/L1T</p>

<p>Sentence structure</p>	<p>6</p>	<p>I'll build a big company...and help the people who are very poor to share me in my happiness...</p> <p>At the beginning all know that the people at all over the world they like money so its...</p> <p>I will make a schedule for my needs from the most important needs to the needs which are not much required, for example...</p> <p>As the Islamic tradition encourages me to give my savings to charity I will give it and I will help needy people</p> <p>Moreover, I going to married four women and I give my father and mother and my brother.</p> <p>I play with my children in free time and I watch television.</p>	<p>Missel/Cohr Cohs Misord</p> <p>Amb</p> <p>Cohr</p> <p>InterL</p> <p>Om Punc</p>
<p>Nouns and Pronouns</p>	<p>2</p>	<p><u>The people</u> at all over the world <u>they</u> like they money I hope I will spend all the money in its correct ways.</p>	<p>InterL</p> <p>InterL</p>
<p>Word Order</p>	<p>2</p>	<p>Help the people who are very poor to share me in my happiness I have house big and nice in Taif</p>	<p>Dev/Conf/Dist</p> <p>InterL</p>

<p>Lexical Errors</p>	<p>Word Choice / Collocation / Phrasal verbs</p>	<p>5</p>	<p>At the beginning¹, all² know that... It's nature to like the money... I will make a <u>schedule</u> for my needs. I <u>get to my</u> work in my car every day. I get up at six thirty <u>very</u> morning.</p>	<p>Soc/GK Dev Conf FF/DC Un</p>
<p>Semantic Errors</p>	<p>Word choice within context</p>	<p>2</p>	<p>I will spend all the money it its <u>correct</u> ways. Aramco will send it [oil] to its refiners to <u>get</u> the kerosene...</p>	<p>InterL InterL</p>
<p>Discourse/Process (sample A)</p>	<p>Organization/ transition words (TW) logical progression/ flow of ideas (LP / FI)</p>	<p>7</p>	<p>1. Good organization - poor use of TW – good logical progression 2. Illogical organization – some use of TW – poor use of LP/FI 3. Decent organization – no use of TW – some LP / FI 4. Poor organization – good use of TW – poor FI (entire relative clause missing) 5. Too short to assess against relevant criteria.</p>	<p>Cohs Cl Cohs Cl n/a</p>

<p>Discourse/Process (sample B)</p>	<p>8</p>	<p>1. Poor organization – over repetition of TW ('and') – satisfactory FI 2. Good organization – poor use of TW - satisfactory flow of ideas 3. Good organization – no use of TW – decent LP and FI 4. Poor organization – poor use of TW – inconsistent flow of ideas 5. Too short to accurately assess against relevant criteria</p>	<p>Cl/Dev Cohs Cohs Cl/Cohs n/a</p>
<p>Punctuation</p>	<p>5</p>	<p>1. At the beginning ¶ all know that they people at all over the world they like money ¶ so its nature to like the money ¶ so if I won 5 million riyals ... 2. For example ¶ I will immiaditly buy a big great house with at least a two square kilometer yard ¶ I'll buy a 3. Help the people who are very poor to share in my hapyness ¶ finally I hope I will spend all the money in its correct ways. 4. I like Khafji because it's my family ¶ the weather in summer is very <u>hot, but</u> the best weather is in <u>spring, and</u> favourite food is kapsa and fish ¶ 5. As the Islamic religion encourages me to give 2.5% of my savings to chirity ¶ I will give it and I will help needy people.</p>	<p>InterL Dev Dev Dev Dev Dev Dev Amb</p>

	Spelling	13	1. beginig 2.immiaditly 3. hapyness 4. frist 5. married 6. mather 7. saudi aryad 8. forman 9. dirve 10. Forad 11. imagin 12. supurmarket 13. tolites	SdSp SpConv/PhN M / SdSp Inv/ SdSp Conf/PhNM Om/SdSp Inv/ L1PrTI SdSp SdSpSdSp
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APPENDIX 2

The differences between English and Arabic – adapted from Abi Samra (2003)

Introduction:

Arabic is the official language in many countries, including Egypt, Iraq, Libya, Saudi Arabia and Morocco. Arabic is also the language of the Koran, so Muslims of all nationalities, including Indonesians, are familiar with it. There are many Arabic dialects, but there is one version that is taught in schools and used by the media across the Arab world.

Arabic is from the Semitic language family, hence its grammar is very different from English. There is a large potential for errors of interference when Arab learners produce written or spoken English. Arabic has a three consonant root as its basis. All words (parts of speech) are formed by combining the three-root consonants with fixed vowel patterns and sometimes an affix. Arab learners may be confused by the lack of patterns in English that would allow them to distinguish nouns from verbs or adjectives, etc.

Alphabet:

Arabic has 28 consonants (English 24) and 8 vowels/diphthongs (English 22). Short vowels are unimportant in Arabic, and indeed do not appear in writing. Texts are read from right to left

and written in a cursive script. No distinction is made between upper and lower case, and the rules for punctuation are much looser than in English.

Unsurprisingly, these fundamental differences between the Arabic and English writing systems cause Arab learners significant problems. They usually need much more time to read or write than their English-learning peers from the Indo-European language families.

Phonology:

English has about three times as many vowel sounds as Arabic, so it is inevitable that beginning learners will fail to distinguish between some of the words they hear, such as *ship* / *sheep* or *bad* / *bed*, and will have difficulties saying such words correctly.

Problems in pronouncing consonants include the inability to produce the 'th' sounds in words such as *this* and *thin*, the swapping of /b/ and /p/ at the beginning of words, and the substitution of /f/ for /v/. Consonant clusters, such as in the words *split*, *threw* or *lengths*, also cause problems and often result in the speaker adding an extra vowel: *spilit*, *ithrew* or *lengthes*.

In Arabic word stress is regular. It is common, therefore, for Arab learners to have difficulties with the seemingly random nature of English stress patterns. For example, the word **yesterday** is stressed on the first syllable and *tomorrow* on the second.

The elision (or swallowing) of sounds that is so common in spoken English is problematic for Arab speakers, and they will often resist it. (Consider, for example, how the questions *What did you do?* or *Do you know her?* are said in conversational English: *Whatcha do?* / *Jew know her?*) This aversion to elision and the use of [glottal stops](#) before initial vowels are the primary reasons for the typical *staccato* quality of the spoken English of Arab learners.

Grammar

Verb/Tense: Arabic has no verb *to be* in the present tense, and no auxiliary *do*. Furthermore, there is a single present tense in Arabic, as compared to English, which has the simple and continuous forms. These differences result in errors such as *She good teacher*, *When you come to Germany?*, *I flying to Egypt tomorrow* or *Where he going?*

Arabic does not make the distinction between actions completed in the past with and without a connection to the present. This leads to failure to use the present perfect tense, as in *I finished my work. Can you check it?*

There are no modal verbs in Arabic. This, for example, leads to: *From the possible that I am late. (I may be late.)* Another common mistake is to infer that an auxiliary is needed and make mistakes such as: *Do I must do that?*

Grammar - Other:

The indefinite article does not exist in Arabic, leading to its omission when English requires it. There is a definite article but its use is not identical with the use of the definite article in English. In particular, Arab learners have problems with genitive constructions such as *the boy's dog*. In Arabic this would be expressed as *Dog boy*, which is how such constructions may be conveyed into English.

Adjectives in Arabic follow the noun they qualify. This leads Arab beginners to making word order mistakes in written or spoken English.

Arabic requires the inclusion of the pronoun in relative clauses, unlike English, in which the pronoun is omitted. This causes mistakes like: *Where is the pen which I gave it to you yesterday?*

Vocabulary:

There are very few English/Arabic cognates. This significantly increases a) the difficulties they have in comprehending what they hear and read, and b) the effort they must make to acquire a strong English word store.

Is There an “Applied Linguistics” Vocabulary? Questioning Disciplinary Delineation in EAP Wordlist Construction

Colin Sage

University of Birmingham, The United Kingdom

Biodata

Colin Sage graduated from the University of Birmingham’s MA TEFL/TESL program in December 2011. His research interests include learner beliefs about second language acquisition and disciplinary specificity in English for Specific Purposes. He has a background in teaching having worked in South Korea, Germany and Vietnam and is now an editor for Cambridge University Press.

Abstract

This paper builds on previous research studies that explore the optimal degree of specificity required in the compilation of wordlists in English for Academic Purposes (EAP) by evaluating the proposition that learners should study disciplinary, as opposed to academic-register based vocabularies. We examined a 2.2 million word corpus representing three specialisms of a single discipline (Applied Linguistics) and found inter-specialism differences in the range, frequency, collocation and meaning of individual lexical items. More surprisingly, this inter-specialism variation appeared to occur to a similar degree to previously observed differences between disciplines. These results suggest the discipline-register may be only marginally more useful than the academic-register in assessing learner needs for EAP

wordlist compilation. It is therefore argued further research needs to be conducted to examine the conceptual units used to structure wordlist construction.

Keywords: wordlists, applied linguistics, disciplinary difference, specificity

1. Introduction

There has been considerable recent interest in the compilation of discipline-specific English for Academic Purposes (EAP) wordlists (e.g. Chen & Ge, 2007; Martínez et al., 2009; Ward, 2009). Much of this research was prompted by the argument that there is variability not just between academic vocabulary and the vocabulary of general English but also variability in terms of range, frequency, collocation and meaning between the academic vocabularies of different fields and disciplines (Hyland and Tse, 2007: 251). However, underpinning the development of discipline-specific wordlists is the assumption that disciplines themselves employ relatively consistent vocabulary. For example, in Martínez et al.'s (2009) study of vocabulary in agricultural research papers, difference between vocabulary of agriculture and, say, chemistry or business is implicitly accepted, while potential variability between the vocabularies of specialisms such as agronomy, agricultural business management and horticulture remains unexplored. Indeed, despite intra-disciplinary differences found at the level of textual organization (e.g. Ozturk, 2007), the author is not aware of any studies that have focused on variation in academic vocabulary between specialisms.

This exploratory investigation will therefore begin examining this area through a corpus-based analysis of academic vocabulary in three specialisms of applied linguistics: second language acquisition (SLA), applied psycholinguistics and language testing. Three subcorpora of applied linguistics articles – each representing one specialism – were analyzed

and compared using a methodology similar to based on Hyland and Tse (2007). Through this process, the study will seek a provisional assessment of the discipline's validity as a unit of distinction in EAP wordlist development by examining the following research questions:

1. Are the vocabularies of SLA, applied psycholinguistics and language testing consistent in terms of range, frequency, collocation and meaning?
2. Is this consistency sufficient to reveal a shared lexical core that might form the basis of an applied linguistics vocabulary?

I begin this paper by describing general academic vocabulary (Section 1.1), before discussing recent challenges to this construct (Section 1.2) as well as evaluating discipline specific EAP vocabularies and their relationship to these challenges (Section 1.3). Section 2 describes the corpora and methodology used in the study while Section 3 presents results. Finally, Section 4 discusses the theoretical implications of findings with reference to competing units of distinction in EAP as well as practical implications for the composition of academic wordlists.

1.1 Constructions of vocabulary in EAP

Supplementing knowledge of general English vocabulary has long been seen as an important aspect of preparing EAP learners for participation in their target academic communities. Yet there has been much debate as to the degree of vocabulary specificity required to meet these needs. Early EAP wordlists (e.g. Xue & Nation, 1984; Coxhead, 1998, 2000) assumed delineation at the level of academic-register to be sufficient and so, albeit implicitly, viewed academia as a relatively homogenous community of discourse. Thus, academic vocabulary, also known by a plethora of terms including “sub-technical vocabulary,” “specialist vocabulary,” “frame words” and “specialized non-technical lexis” (Nation, 2001: 187), was seen to be composed of words representing practices and processes, such as research,

analysis, and evaluation, common to all academic institutional contexts (Martin, 1976: 93; Nation, 2001: 196). Academic vocabulary was further seen as distinct from general vocabulary (the high frequency most common 2000-3000 words of English) and from vocabulary used only in certain fields (discipline-specific specialist or technical words such as interlanguage in applied linguistics) (Wang and Nation, 2004: 291).

In order to facilitate the instruction of this academic vocabulary, wordlists were developed based on these assumptions (e.g. Xue & Nation, 1984). Of these lists, Coxhead's (1998, 2000) Academic Word List (AWL) proliferated most widely and became central to many pedagogic realizations of EAP (e.g. Schmitt & Schmitt, 2005). Developed using a corpus of 3.5 million words from texts in 28 academic subject areas, the AWL consists of 570 word families, each composed of a word stem or lemma (stress, for example) and all its closely related affixed forms: (stressed, stresses, stressful, stressing and unstressed). The AWL covered approximately 10% of tokens (e.g. of individual words) in a broad corpus of academic texts but only 1.4% of tokens in a fiction collection (Coxhead, 2000: 225). When combined with the 2000 high frequency words of West's (1956) General Service List (GSL), it provided an accumulative coverage of around 85% (Coxhead, 2000: 224; Hyland & Tse, 2007: 240). Added to this learners' knowledge of their field's specialist terms and, it was claimed, the successful reading threshold of 95% text-coverage (Laufer, 1989) would be approached.

1.2 Discipline-specific wordlists

More recently, however, the appropriacy of wordlists which assess EAP learners' vocabulary needs at the level of academic-register has been questioned. Notably, Hyland and Tse (2007)

focused on the apparent absence of a common core of academic vocabulary in a broad corpus of EAP texts in order to both undermine the AWL and support their claim that the discipline constitutes a more valid unit of distinction for EAP wordlist composition. They first demonstrated that the coverage of the AWL differs between fields and disciplines. The most extreme gulf cited was between the AWL's 16% coverage of computer science texts and its 6.2% coverage of biology. This implies that learners in some disciplinary areas receive substantially greater return for their study of AWL words. Secondly, Hyland and Tse (2007) showed that many AWL families appear frequently overall only because of their concentration in one field or discipline. They found, for example, that 93.7% of AWL families are unequally distributed between fields. Although alone these arguments potentially suggest only weaknesses in the AWL, perhaps deriving from its basis on an unrepresentative corpus, rather than in the broader concept of academic vocabulary, findings are triangulated by the emergence of discipline-specific wordlists which diverge greatly from the AWL's content (e.g. Martínez et al., 2009; Ward, 2009; Chiba et al., 2010).

Hyland and Tse (2007) further undermined the notion of a core vocabulary shared throughout the academic community by examining variations in AWL family meanings and usages between disciplines. Citing the collocational behavior of words such as process and analyze as well as by examining the distribution of meanings of homographs, they argued that "different disciplines show clear preferences for particular meanings and collocations" (ibid.: 244). They concluded that "academic vocabulary ... gives a misleading impression of uniform practices and offers an inadequate foundation for understanding disciplinary conventions" (ibid.: 250). Indeed, although aspects of Hyland and Tse's (2007) study have been contested; for example, on the basis that words may share core meaning despite variations in discipline-

specific extensions of these meanings (Granger and Paquot, 2009) and that the interdisciplinary nature of academic life makes discipline-specific study inadequate (Eldridge, 2008), the argument that much variation is indeed situated at the level of discipline appears widely accepted.

1.3 Questioning discipline

Nevertheless, this notion that the discipline is internally consistent is potentially problematic. Although, following Hyland and Tse (2007), the discipline has increasingly become the default point of wordlist construction, the empirical focus of their investigation is on the absence of consistency in academia as opposed to the presence of consistency in disciplines. Thus, the discipline as a theoretical basis for wordlists appears vulnerable to criticisms similar to those levelled at academia: just as Coxhead's (2000) finding that the AWL covers more tokens in academic texts than in a fiction collection fails to demonstrate consistent cross-disciplinary coverage, and that demonstration of inter-disciplinary variations does not necessarily imply the absence of further mediating variables inside (or alongside) the discipline.

Indeed, assertions that support the concept of discipline remain largely theoretical in nature: Hyland (2000, 2002; Hyland and Tse, 2007) works from a social constructionist perspective to posit the discipline as a candidate category for wordlist construction on the basis that disciplines are as distinct in their aims, social behaviors, power relations, political interests, ways of talking, and structures of argument. It is further argued that

disciplines have different views of knowledge, different research practices, and different ways of seeing the world, and as a result, investigating the practices of those disciplines will inevitably take us to greater specificity.

Hyland (2002: 389)

Yet, these arguments again appear remarkably reminiscent of earlier perspectives which regarded academia as a common community (Martin, 1976: 93; Nation, 2001: 196) and may be as problematic as these earlier views: just as disciplines may vary from the core of academia, it is conceivable that all the attributes presented here as defining the discipline might also vary within disciplines. For example, applied linguists commonly have different views of knowledge (as diverse as nativism and empiricism), ways of seeing the world (as diverse as realism and social constructivism), and research practices (as diverse as corpus-driven research and action research). It thus appears possible that construal of the discipline as a distinct shared community with a single core vocabulary obscures a wealth of internal diversity.

In sum, there is no doubt that efforts to critique academic vocabulary and the AWL have provided many interesting insights into their nature and that these efforts have been highly influential. However, although in many contexts the level of discipline has become a new benchmark for developing EAP wordlists, the potential over-attribution of lexical differences to this category may undermine the validity of this approach. It remains unclear as to whether disciplinary-vocabularies have any more capacity to withstand close inspection than academic vocabulary delineated at the level of academic-register. It is therefore useful to assess the coherence of the discipline with the same level of scrutiny Hyland and Tse (2007) applied to the previously posited category of academia. Following Hyland and Tse (2007) then, these ideas are explored here through an examination of the frequency, range, preferred

meanings and forms, and collocational patterns of academic words in three specialisms of applied linguistics.

2. The study

This study uses a corpus-based approach to assess the existence of a common core of vocabulary in three specialisms of applied linguistics. The study analyzes vocabulary found in each specialism in terms of range, preferred meanings and forms as well as collocational patterns and compares findings with the assumption that, were a common lexical core present, these measures would be consistent.

2.1 The corpus

For the study, the 2.2 million word Applied Linguistics Specialisms (APLIS) corpus was compiled and organized into three subcorpora representing the applied linguistics specialisms of SLA, applied psycholinguistics and language testing. Following the guidelines given in Sinclair (1991, 2005) and Barnbrook (1996) concerning representativeness, specificity of corpus, use of whole documents, and availability in electronic form, texts selected to represent each specialism were articles published between 2005 and 2011 in three major peer-review journals: *Studies in Second Language Acquisition*, *Applied Psycholinguistics* and *Language Testing*. Although the resultant subcorpora were of different sizes (see Table 1) this was compensated for by, where appropriate, giving results as normalized word-frequencies or projecting word occurrence proportions based on the assumption of equally sized subcorpora. After collection, articles were converted to ASCII format and article sections such as references, appendices and acknowledgements appearing before the abstract and after the

conclusion were removed automatically by a computer. Samples of texts were checked manually to ensure the efficacy and consistency of the cleaning process across the three subcorpora. Although page footers containing journal names and page numbers were included, a survey of this text over ten pages revealed these footers comprised only around 0.002% of the corpus's total tokens. It was deemed that this was unlikely to skew general results and, as a further precaution, it was ensured word families appearing in these sections were excluded from samples used when examining word meaning and collocation.

Table 1: Composition of the Applied Linguistics Specialisms (APLIS) Corpus

	Specialism			APLIS Corpus Total
	Second Language Acquisition	Applied Psycholinguistics	Language Testing	
Texts	93	97	93	283
Types	24 964	20 506	17 364	41 940
Tokens	886 118	765 556	588 411	2 240 085

2.2 Analysis procedures

The analysis procedures employed by the investigation followed Hyland and Tse (2007), although some steps supplementary to their primary conclusions were excluded. While these steps were used by Hyland and Tse (2007) to assess the usefulness of the AWL to students of different disciplines, here they instead examined similarities and differences between APLIS subcorpora. Adoption of this methodology was considered appropriate because Hyland and Tse's (2007) tests provide an effective and established method of establishing lexical differences between corpora. However, it should be noted that while Hyland and Tse (2007) were seeking to assess the AWL, here this wordlist was employed as a sample of word

families only some of which might be included in any emergent disciplinary vocabulary of applied linguistics.

Adoption of Hyland and Tse's methodology also allowed a comparison of their reported levels of inter-disciplinary difference with the levels of intra-disciplinary variance found in this investigation. Although this comparison provides a useful yardstick for assessing the internal diversity of applied linguistics, it is important to note that due to the different composition of the corpora used in each investigation these comparisons should be viewed as somewhat provisional: Hyland and Tse (2007: 238) sought to represent disciplines using a mixture of text-types including research articles, textbook chapters and academic book reviews as well as non-professional writing such as master's theses and L2 student's master's project theses. However, here, only the text type of research articles was used. It was speculated that, by narrowing the variability of author-expertise and text type, sub-corpora would become more homogenous and thereby provide a more sensitive measure of the discipline's internal coherence.

Data analysis was conducted using the RANGE software package (Heatley et al., 2002) which is pre-loaded with the GSL and AWL. Supplementary data processing was conducted using Microsoft's Excel spread-sheet package. Selected keyword in context lines were also viewed using the AntConc corpus analysis software (Anthony, 2010).

3. Results

Results are divided into three main sections assessing the consistency of the APLIS subcorpora in terms of range, frequency, collocation and meaning. Section 3.1 gives a summary of the coverage of AWL families in the APLIS corpus and subcorpora while Section

3.2 treats the distribution of intra-specialism word frequencies. Finally, Section 3.3 explores word meanings and usages between specialisms. Findings are weighed against the expectation that, were an applied linguistics vocabulary in evidence, a common core of items would be found in the three specialisms examined. Further comparisons are made between the results of this study and Hyland and Tse's (2007) findings regarding inter-disciplinary and inter-field differences.

3.1 Coverage

Overall coverage of the APLIS sub-corpora by the AWL was impressive: AWL families accounted for 11.5% of all APLIS text and, combined with the GSL, coverage of 83.6% was reached. This resembled the 85% coverage found previously when viewing a general corpus of academic texts (e.g. Coxhead, 2000) although it diverged somewhat from Hyland and Tse's findings of 88.0% AWL + GSL coverage in the field of social science.

However, as Table 2 shows, a closer examination of results reveals some inter-specialism differences in this coverage: the largest difference was between the 12.7% of families covered in the Language Testing subcorpus compared to the 10.7% coverage of the Applied Psycholinguistics subcorpus. This difference means students of Language Testing meet 19% more AWL words than students of Applied Psycholinguistics. While differences here do not approach the greatest inter-disciplinary differences found by Hyland and Tse (2007) between the AWL's coverage of computer science (16%) and biology (6.2%), difference is nevertheless substantial and even exceeds differences reported by Hyland and Tse (2007) between fields.

Table 2: AWL Coverage of APLIS Corpus and Subcorpora

	Total Tokens	AWL Tokens	Coverage %		Overall
			AWL	GSL	
Second Language Acquisition	886 118	100 131	11.3	71.8	83.1
Applied Psycholinguistics	765 556	82 221	10.7	71.8	82.5
Language Testing	588 411	74 669	12.7	73.1	85.8
Overall	2 240 085	256 938	11.5	72.2	83.6

Note. GSL = General Service List (West, 1953); AWL = Academic Word List (Coxhead, 2000)

3.2 Frequency and distribution

In addition to this variation in coverage, inter-specialism differences were also found in the examination of word family frequencies and distribution. Were a common core of applied linguistics vocabulary to be present in the APLIS corpus, then similar normalized frequencies of common families would be expected to manifest throughout subcorpora.

However, examination of the 10 most common AWL families in each specialism revealed few similarities. These families represent an important sample because, combined, they accounted for around 20% of all occurrences of AWL families in the APLIS corpus. Yet, as Table 3 shows, only three families (task, vary and analyze) were common to all lists while the most frequent family in the language testing subcorpus (item) did not appear in other subcorpora top 10s. Similarly, the family participate, which accounted for 3.5% of all AWL text in the SLA subcorpus, was absent from the language testing corpus top 10. In Hyland and Tse's (2007) results, only two items were shared between fields examined. Nevertheless, it is striking that a similar level of variance was found between specialisms and this much larger category.

Table 3: 10 Most Frequent AWL Families by Specialism with Percentage Coverage

Overall (all three specialisms)				Second Language Acquisition			
Family	Freq	Item %	Cum %	Family	Freq	Item %	Cum %
<i>Task</i>	32.9	2.9	2.9	Participate	39.7	3.5	3.5
Participate	30.5	2.7	5.5	<i>Task</i>	31.3	2.8	6.2
Item	25.3	2.2	7.7	Process	29.4	2.6	8.9
<i>Vary</i>	25.2	2.2	9.9	Research	20.6	1.8	10.1
<i>Analyze</i>	22.8	2.0	11.9	<i>Vary</i>	10.2	1.8	12.5
Process	22.7	2.0	14.0	Acquire	19.9	1.8	14.3
Significant	20.8	1.8	15.7	Significant	18.4	1.6	15.9
Research	18.7	1.6	17.3	<i>Analyze</i>	17.8	1.6	17.4
Respond	15.6	1.4	18.7	Context	17.2	1.5	19.0
Acquire	14.0	1.2	19.9	Target	16.0	1.4	20.4
Applied Psycholinguistics				Language Testing			
Family	Freq	Item %	Cum %	Family	Freq	Item %	Cum %
<i>Task</i>	34.2	3.2	3.2	Item	55.8	4.4	4.4
Participate	32.3	3.0	6.2	Assess	34.3	2.7	7.1
Significant	28.6	2.7	8.9	<i>Task</i>	33.6	2.6	9.7
<i>Vary</i>	27.4	2.6	11.4	<i>Analyze</i>	30.9	2.4	12.2
<i>Analyze</i>	22.4	2.1	13.5	<i>Vary</i>	30.0	2.4	14.5
Process	22.2	2.1	15.6	Text	23.8	2.9	16.4
Acquire	16.8	1.7	17.1	Research	23.1	2.8	18.2
Stress	16.8	1.7	18.7	Respond	21.0	1.7	19.9
Error	16.1	1.5	20.2	Valid	15.9	1.3	21.1
Respond	14.6	1.4	21.6	Factor	14.7	1.2	22.3

Note. Freq=normalized frequency per 10000 words. Cum=cumulative percentage of AWL items covered. Words common to all lists are given in italics. Word families include variant spellings (e.g. Analyse/Analyze).

Unequal inter-specialism distributions of families were also found when the sample examined was widened to compare frequencies of all AWL items. For this purpose, frequencies of AWL families were adjusted to give predicted occurrence proportions assuming equally sized subcorpora. Here, as there were three subcorpora, distributions of around 33% in each subcorpus could be interpreted as evincing core vocabulary items. However, as Table 4 shows, 86.8% of all AWL families occurred unequally. More importantly, when only those items which occurred frequently or “above the mean of all AWL items in the corpus” were included in the analysis, 79.9% of items were unequally

distributed (Hyland and Tse, 2007:240). In fact, only 29 families were both frequent and evenly distributed.

Table 4: Concentration of Items in one Specialism (Assuming Equally Sized Subcorpora)

Concentration of items	Number of Families	
	All Items	Most Frequent Items
40%-59% of occurrences in one specialism	335(58.0%)	87(60.4%)
60%-79% of occurrences in one specialism	118(20.1%)	23(16.0%)
Over 80% of occurrences in one specialism	40(7.0%)	5(3.5%)
Total families with uneven distribution	493(86.8%)	115(79.9%)

Note. The figures are representative of predicted figures based on normalized frequencies. Following Hyland and Tse, (2007:240) most frequent items are defined as those occurring “above the mean of all AWL items in the corpus”. Here, 144 families occurred more frequently than this mean.

Here, then, evidence suggests only a highly limited common core of applied linguistics vocabulary while the majority of families’ importance appears to vary substantially between specialisms. Indeed, although Hyland and Tse’s (2007) equivalent list of variation between disciplines in the social sciences revealed 94.3% of all AWL families were unevenly distributed, this is a difference of only 8% relative to the 86.8% of families found here to be unequal intra-disciplinarily. Hyland and Tse’s results thus appear to reveal a more pronounced trend in vocabulary divergence rather than a difference in order of magnitude.

3.3 Word meanings and usage

Were a common core of applied linguistics vocabulary apparent at the level of discipline, word families might also be expected to display similar semantic preferences and collocational behavior across specialisms. However, in the APLIS corpus words such as strategy showed strong discipline-specific collocational preferences: in the SLA subcorpus 26% of occurrences were in the expression processing strategy; in the language testing specialism this collocation was rare while metacognitive strategy, (10%) cognitive strategy

(10%) and reading strategy (14%) were the most common fixed expressions. This again demonstrates that intra-disciplinary differences are apparently of similar magnitude to differences between disciplines: it was previously found that 9% of occurrences of the word strategy in an applied linguistics subcorpus were in the expression learner strategy while, for example, in sociology 31% of cases are in coping strategy (Hyland and Tse, 2007). Indeed, this previous finding that 9% of occurrence also demonstrates the effect that corpora composed of different specialisms may have on the frequency of collocates: in the APLIS corpus occurrences of the phrase learning strategy comprised just 1% of strategy's total occurrences.

Discipline-specific collocations were also investigated through examination of collocates of analysis in each of the APLIS specialisms. This process revealed that the many of the 10 most significant collocates by T-score were indeed shared by the specialisms: examples included, factor analysis, regression analysis and statistical analysis. Yet although these fixed phrases may indicate discipline-specificity, it is more likely that they are instead held in common by a number of fields with similar statistical conventions including behavioral sciences, social sciences, and operation research. Indeed, other compounds also apparently associated with a particular type of approach revealed—rather than disciplinary-consistency— great frequency differences between specialisms: for example, collocations such as generalizability analysis, bias analysis, and content analysis were specific to language testing. Similarly, compound nouns such as acoustic analysis, and phonological analysis were specific to applied psycholinguistics.

Table 5: Distribution of Meanings of Selected Academic Word List Word Families across Specialisms (%)

Family	Meaning	Second Language Acquisition	Applied Psycholinguistics	Language Testing
Consist	<i>stay the same</i>	49	71	51
	<i>made up of</i>	51	29	49
Issue	<i>flow out</i>	0	0	0
	<i>topic</i>	93	97	98
	of a journal	7	3	2
Volume	<i>book</i>	58	13	33
	<i>quantity</i>	42	87	66
Credit	<i>acknowledge</i>	0	17	0
	<i>payment</i>	31	0	0
	exam credit	8	1	91
	academic credit	62	72	9
Offset	<i>counter</i>	44	6	86
	end	56	94	14
	<i>out of line</i>	0	0	0

Note. Categories used by Hyland and Tse (2007) are given in italics.

To examine this issue more widely, a selection of the AWL homographs identified by Wang and Nation (2004) were analyzed. Here, in order to accommodate emergent specialism-oriented meanings satisfactorily, several additional categories for analysis were added to those employed by Hyland and Tse (2007). Table 5 shows that although word usage for issue was consistent across specialisms, other items displayed substantial differences. Some of this variation was caused by specialist usages: for example, in applied psycholinguistics, 94% of occurrences of offset referring to an end (for example, the end of the voicing of a tone) while in language testing the majority of occurrences of this word referred to the countering of an argument. Similarly, specialist meanings identified by Hyland and Tse (2007) such as offset to mean out of line (common in engineering and science) or of issue meaning flow out (common in business studies and electronic engineering) did not occur here. Again, these results suggest the emergence of specialism-specific as opposed to discipline-specific

meanings. Overall then, these findings appear to indicate a great deal more complexity in the collocational commonalities and differences between specialisms than mere discipline-specificity.

4. Discussion and implications

This investigation sought to assess the consistency of the range, frequency, collocation and meaning of vocabulary in three applied linguistics specialisms and thereby assess whether the discipline of applied linguistics displays a shared core of vocabulary. In order to achieve this, a corpus based analysis contrasting three specialisms of applied linguistics was conducted. The following sections argue that findings reveal this shared core to be more elusive than previous research might have suggested. Implications of this conclusion are then discussed with reference to the conception of the discipline as a community of discourse and to the construction of EAP wordlists.

4.1 An “applied linguistics” vocabulary?

Results showed substantial inter-specialism differences in AWL family distributions and in the shaping of word meanings. More limited differences were also evident in the coverage of the AWL between specialisms, while results also demonstrated some differences in inter-specialism collocation patterns. Thus, in all areas examined, findings show that the differences previously cited as indicating the absence of coherence in the category of academia also occur within applied linguistics. More surprising, however, was not the mere manifestation of these phenomena but rather that the extent of this inter-specialism variation – especially with regards to distribution and word meaning – approached the levels found by

Hyland and Tse (2007) between disciplines or fields. Although data may not be directly comparable, it appears that variation within the discipline of applied linguistics differs with inter-disciplinary variation only in degree, not by an order of magnitude. This is all the more remarkable given that the three specialisms examined were from the more technicist, quantitative end of the applied linguistics spectrum, an area it might be expected would display relative homogeneity.

Clearly, more studies of this type are required in order to establish the generalizability of these findings: it is possible that, for example, applied linguistics is an unusually heterogeneous and multifaceted discipline and thus more disciplines in a variety of fields should also be examined for consistency. Nevertheless, at this point it seems reasonable to draw, albeit provisionally, a number of conclusions. Firstly, it appears that – given the variation found between specialisms – it is premature to argue that applied linguistics as a disciplinary-community has a common core of vocabulary substantially greater than that of the academic community. This variation further implies that it may be empirically unsustainable to dismiss academic vocabulary on the basis of its absence of a common core without also being obliged to dismiss discipline-based vocabularies. Secondly, it seems that – due to much of the variation found between disciplines also occurring within applied linguistics – some variation previously attributed to inter-disciplinary difference might be better accounted for with reference to mediating variables. For example, it is conceivable that earlier studies failed to adequately represent the diversity of disciplines in their corpora thereby artificially narrowing this category and obscuring intervening factors. Finally, with regards to the creation of wordlists in EAP, it appears that applied linguistics and – if results

can be generalized – the discipline, may be only marginally more useful in establishing learners' lexical needs than the previously posited category of academia.

4.2 Re-examining the discipline

Given these conclusions it is necessary to re-examine conceptions of the discipline as a discourse-community. Findings here fail to support Hyland and Tse's (2007: 247) claim that "academic representations shape and manipulate language for disciplinary purposes." Although results do indicate that the discipline (or a category that overlaps the discipline) does indeed contribute towards the consistency of vocabulary, the shaping influence of discipline is sufficiently weak that it fails to produce a substantial common core. It thus appears that a more complex and multifaceted account of the factors that may generate core vocabularies is required.

Several accounts of this increased complexity are possible: academics may belong to smaller discourse communities than previously predicted and so a common core of vocabulary might be revealed by reference to smaller units of distinction. Although there is as yet no evidence that suggests the level of specialism would display a larger common core of vocabulary than the categories of discipline or academic-register, this is a possible direction for future research. Alternatively, a non-hierarchical conceptualization of discourse communities in academia may be more productive in finding core vocabularies: possible categories that traverse and intersect disciplinary boundaries might include such diffuse areas as theoretical perspectives (such social constructivism), methodological practices (such as ethnography), or topical interest (such as British politics). These categories may be consistent with the experiences of many academics who feel their community affiliations are more

complex than merely disciplinary. Indeed, a carefully constructed corpus representing a number of fields and disciplines appears to have the potential to reveal quantitatively which qualitative groupings might be most productive in tailoring wordlists to learner needs. It would be interesting to explore this area using a purely inductive statistical clustering approach such as factor analysis or correspondence analysis to interrogate data. Such an approach appears potentially able to provide insights into where core vocabularies may emerge and findings could subsequently be applied to the development of EAP wordlists.

4.3 Implications for wordlists in EAP

Although understanding of the full complexity of EAP vocabulary remains elusive, findings nevertheless have a series of intermediary implications for production of EAP wordlists. These implications appear context-dependent. Often EAP classes are composed of learners from a variety of disciplines or language backgrounds who take classes for different reasons (Huckin, 2003). These general EAP contexts have previously been criticized for providing insufficient vocabulary specificity relative to discipline-specific courses. However, results here indicate that, due to the previous over-emphasis on the language shaping power of discipline, these learners' disadvantage relative to learners on discipline-tailored courses may be more moderate than previously supposed. Nevertheless, in contexts where resources are sufficient, given that disciplines appear to account for some portion of vocabulary variation, tailoring wordlists to match learners' disciplinary interests should lead to vocabulary syllabi being somewhat more appropriate to learner needs. For these learners then, if the discipline is indeed more varied than previously believed, it is important to assess the full diversity of potential specialist interests and ensure this diversity is adequately represented by wordlists

produced. A potential pitfall in recent movements to generate discipline-specific wordlists (e.g. Chen & Ge, 2007; Martínez et al., 2009; Ward, 2009) appears to be that these wordlists, in assuming the existence of disciplinary core, may eliminate some specialism-specific diversity and thus narrow the range of texts with which learners can competently engage.

A further possible approach to academic wordlists may be to follow Hyland (2002: 394) in taking specificity “as far as we can” and adopt the specialism as an alternative level for wordlist construction. After all, Hyland and Tse’s (2007) response to the apparent absence of a common core of vocabulary in academia was to propose the discipline as an alternative unit of distinction and thus the apparent absence of a common disciplinary core could lead to an equivalent treatment of the discipline. In general EAP contexts, pedagogic approaches which appoint learners as researchers (e.g. Lee and Swales, 2006) may be compatible with this degree of specificity. Additionally, although impossible in most contexts, teacher-prepared wordlists tailored to a single specialism may be practicable and effective in meeting learners' needs in, for example, PhD preparation courses. Indeed, highly specialism-specific literacies may become increasingly important given the trend of many influential academic journals in Europe and Japan to begin publishing in English. However, as discussed in Section 4.2, it remains to be seen whether superior units of distinction that are better able to describe commonality in academic vocabulary might emerge. Additionally, it should be noted that wordlists tailored to this extreme degree of specificity are likely to be of little use in the majority of contexts and also seem to run counter to the original intention of wordlist developers of creating tools to assist in development of general EAP courses.

5. Conclusion

Overall, the findings of this study suggest that wordlists should be treated cautiously even when delineated at the level of discipline and should perhaps be supplemented in their pedagogic usage by alternative more holistic approaches to vocabulary tuition. Although future research may reveal categories for structuring vocabulary tuition that generate a greater common lexical core than the discipline, at this stage much research is still required to determine the lines along which these communities of discourse might be formed. Nevertheless, it appears that if the notion of community is to be maximally productive in the description of vocabulary for EAP then the full complexity of the lines along which communities in academia differ and overlap require more subtle mapping.

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Graphic Novels 2.0: Meaning-making in a Multimodal Era

Tuan Truong

The University of Missouri, The United States of America

Biodata

Tuan Truong is currently a Ph.D. Candidate in English Education at the University of Missouri, Columbia USA where he is also working as an associate editor for Engaging Cultures and Voices Journal. Before the doctoral program, Mr. Truong obtained a Master's in Applied Linguistics with an emphasis on TESOL from the University of Melbourne, Australia. Mr. Truong also works as a teaching and research assistant, instructor of English and translation for ESL students, and instructor of Vietnamese for foreigners. His research interests include curriculum development, teaching speaking, writing, visual and media, ESL/ESL written feedback, and group work in language learning.

Abstract

Arts, multimodality, and new literacy have attracted the attention of both English teachers and researchers. In this case study, the use of a web-based 2.0 graphic novel making tool within the multimodal framework was explored among five secondary students. These young learners of English used this online tool to compose graphic stories for a period of six weeks. Various types of data were collected for the current study including face-to-face interviews, graphic texts, students' self-reflections, and the class teacher and researcher's observation notes. Constant comparative method was applied to analyze the data. Three preliminary findings were reported: the online graphic novel making tool assisted the students to combine

both words and images to tell stories; the students showed their positive feedback to the tool as they believed it was motivating and facilitating, and students' had comments on limitations and technical issues associated with the tool. The findings of the current study suggested a number of implications for teachers of English who were attempting to use networked technologies in the classrooms, and to develop more engaging teaching materials for improvement of their English lessons.

Keywords: Graphic novels, comics, multimodality, web-based 2.0, teaching materials

“By taking advantage of the variety of tools available online, teachers can position their students as critical text consumers and producers” (Handsfield, Dean, & Cielocha, 2009, p. 40).

1. Introduction

Recently, graphic novels have been a favourite genres of young adult literature. The generic term “graphic novel” has been widely used since its first appearance in Eisner’s Contract with God story in 1978 (Bucher & Manning, 2004). The term itself has been defined in a number of ways. For example, Eisner (1985) defines it as a sequential art and a method of expression. Graphic novels are also understood as “juxtaposed pictorial and other images in deliberate sequence, intended to convey information and/or to produce an aesthetic response in the viewers” (McCloud, 1993, p. 9). Comics is “a sequence of discrete, juxtaposed pictures that comprise a narrative, either in their own right or when combined with text” (Hayman & Pratt,

2005, p. 423). Comics represents an “interplay of the written and visual” (Versaci, 2001, p. 62). However, it is believed that instead of seeking a definition of graphic novels, comics, or whatever it might be, people should focus on the values and impacts they bring, as this genre has “earned the right to be considered art on their own merits” (Aaron, 2007, p. 376).

As a big fan of graphic novels, the researcher was amazed at how motivating and informative a combination of images and texts could be (e.g., Eisner’s *A Life Force*, Tan’s *Tales from Outer Suburbia*). As an English teacher, he believes that graphic novels are an engaging medium in classrooms since they are becoming more and more popular, available, and meaningful (Schwarz, 2006). Why don’t we bring graphic novels into English classrooms and help students make their own graphic stories with assistance from an online programme for those whose drawing skill is not their advantage?

This was a starting point of the investigation into students’ use of an online graphic novel making tool to compose their stories. The purpose of this study was to explore the use of a web-based 2.0 tool as a means to help a group of secondary students of English compose graphic novels at a Midwest public school in America. Instructional Web 2.0 tools (e.g., BlogSpot, blogger.com, digital storytelling-VoiceThread.com, Wikispaces, MySpace, and YouTube) are generally understood as tools that allow a website administrator to control information available to students. The tool also allows its users to create, manage, edit, manipulate, and interact with the administrator and with one another. Web 2.0 technologies enable students to actively engage, co-construct ideas, and support higher order thinking (Hedberg & Brudvik, 2008).

In the sections that follow, a literature review of graphics-based materials in classrooms is outlined; this is followed by an overview of multimodality and new literacy.

2. Literature review

2.1 Graphic novels as an instructional tool

Graphic novels are becoming a popular and fast-growing genre in adolescent literature (Bucher & Manning, 2004). Though some skeptical views on graphic novels may exist (See Wertham, 1954, 2003), ample evidence has been documented to show that graphic novels are a new, effective instructional tool. For example, graphic novels serve as an alternative means to approach reluctant readers because a visual-verbal combination makes it easier to read, and/or to feel the author's tone and mood (Frey & Fisher, 2004; Thompson, 2007). When quantitatively and qualitatively comparing the effect of comics with traditional printed text and illustrated text (printed text with a visual illustration), Mallia (2007) argues that comics proved to be unique attention grabbers and motivators of reluctant learners and that they have the potential of being a cognitive tool in instructional contexts.

Graphic novels are also appealing and motivating to young learners. They are a mediating tool for students to understand literacy terms and other classics (Bucher & Manning, 2004; Hatfield, 2006). Comics may serve as a stepping stone - a springboard - for students to learn more difficult skills (Yang, 2003), and a motivating and scaffolding tool for struggling student readers (Haugaard, 1973; Koenke, 1981). The educational values of comics, as Yang (2003) suggests, are motivating, visual, permanent, intermediary, and popular.

As they are rich in visual, graphic novels are reported to help students develop more complex cognitive strategies than text-alone materials do (Schwartz, 2002). The many elements of graphic novels (i.e. visual, textual, audio, and spatial) are more likely to draw students' attention:

To read and interpret graphic novels, students have to pay attention to the usual literary elements of character, plot, and dialogue, and they also have to consider visual elements such as color, shading, panel layout, perspective, and even the lettering style. (Schwarz, 2006, p. 59)

The idea that reading graphic novels involves complex skills is further discussed by Jacobs (2007) who argues that students need complex multimodal literacy skills to read comics, and that as an instructional tool in classrooms, they help students “develop as critical and engaged readers of multimodal texts” (p. 19). According to Jacobs (2007), comics are multimodal texts which require a multimodal approach in the meaning-making process. For example, a comic page includes many panels separated by physical or conceptual spaces or gutters (McCloud, 1993). To read the page effectively, students need to make connections and negotiate the information in these gutters. Furthermore, students must rely on such elements as characters, objects, contexts, word bubbles, shades, colors, and sound effects to get the meaning. Reading a comic book, as Versaci (2001) suggests, involves more than seeing what happens in the textual or visual. Comic reading involves an active participation of the readers to fill in the gutters with detail, which promotes “an intimacy between creator and audience” (McCloud, 1993, p. 64).

Together with traditional printed texts, graphic novels offer students a wider choice of reading genres, which is essential in students’ life-long reading (Crawford, 2004). Exposure to multiple types of reading texts is believed to be a first step that narrows the gap between rich and poor readers (McQuillan, 1998).

Graphic texts are also powerful in engaging students in authentic writing. They offer a great source of writing assignments (Bucher & Manning, 2004) and scaffold writing skills

(e.g., dialogue, tone, and mood) that prepare students to be better writers and wise consumers of information (Frey & Fisher, 2004). Creating a comic book may make social studies class (i.e. history) less boring and more meaningful (Chilcoat, 1993). Comic-making as an after-school activity is reported to assist young learners to develop literacy skills and to create a safe space, which promotes identity development, such as feeling-expressing, problem-solving, choice-making, and idea-testing (Khurana, 2008). Through graphic novels, students explore the dialogues and learn dramatic vocabulary and non-verbal skills, which draw the students' interests (Morrison, Bryan, & Chilcoat, 2002). Creating a comic book also offers students an outlet through which they construct their meaningful communications and relationships; in fact, students enjoy this composition activity more than traditional instructional method (Daud, 2011; Khurana, 2008; Morrison, et al., 2002).

2.2 Multimodality and new literacy framework

Multimodality and new literacy have received a lot of attention from both teachers and researchers (Albers & Harste, 2007). Multimodality and new literacy refer to a new way of thinking about literacy, an approach that pushes teachers and educators to go beyond the limited border of word-based literacy (Jacobs, 2007). This new approach relates literacy to the “increasing multiplicity and integration of significant modes of meaning-making, where the textual is also related to the visual, the audio, the spatial, the behavioral and so on” (Kalantzis & Cope, 2000, p. 5).

This emerging literacy framework helps broaden the concept of school materials. School materials, including traditional prints, movie clips, websites, graphic novels, music, cartoons, photographs, and advertisements, need to be informative and motivating (Wade &

Moje, 2000). As of 2005, 100% of U.S. public schools had Internet access, and 94% had classroom instructional access (Wells & Lewis, 2006). The Internet offers teachers wider pedagogical choices. Besides traditional methods with text-based materials, more web-based tools (i.e. blogging, gaming software, video technologies, webpages, social networks) are making their way into classrooms (Handsfield, et al., 2009). These networks offer a large number of electronic texts, the characteristics of which are to redefine traditional literacy (Leu & Kinzer, 2000; Reinking, 1995, 1998). Reinking (1998) emphasizes this shifting:

Digital forms of expression are increasingly replacing printed forms and there is a widespread consensus, at least intuitively that this shift has consequences for the way we communicate and disseminate information how we approach the task of reading and writing, and how we think about helping people to become literate. (Reinking, 1998, p. xv)

Given the fact that today's students are engulfed by both conventional and digital media, there is an increasing need of preparing students with multimodal literacy skills. A recent report by PEW Internet & American Life Project (Lenhart, Madden, & Smith, 2007) shows that social media-related activities among young adults are on the rise: 64% of interviewed teenagers admit to engaging in online content creation in one form or another (e.g., blog, texting, photo and video sharing, music), 54% of teen girls and 40% of teen boys share their photos online. Of the 935 teenagers surveyed, more than 50% open at least an account with one of the social networks (e.g., Facebook, MySpace).

While shifting from page to screen and multimodal texts, students are now not only required to be competent in papers, pencils, and school materials but they are expected to acquire many other skills including digital media skills (e.g., still and animating visuals, sound, interaction), technology skills (e.g., computer, Internet) (Alvermann, 2008; Silva,

2009; Wade & Moje, 2000), information and communication technologies or ICTs (e.g., web logs or blogs, messaging, web browsers, web plug-ins, listservs, hyperlinks, information resources) (Leu, Kinzer, Coiro, & Cammack, 2004).

Although helping students acquire these new skills to navigate through the multimedia contexts might be a challenging task for teachers (Considine, Horton, & Moorman, 2009), the use of multimodal texts in classroom shows positive and encouraging signals. They were reported to scaffold struggling student writers (Cunningham & Allington, 2003) and to motivate young writers to write since they know that they will be able to publish their works online to share with a wider audience (Karchmer, 2001; Putnam, 2001). The new types of instructional materials were also reported to enable students to actively engage, co-construct ideas, support higher order thinking, become both producers and contributors to the resources (Hedberg & Brudvik, 2008), improve student achievement (NCATE, 1997), and create a more active learning environment (CEO Forum, 1999; Nicaise & Barnes, 1996).

By situating graphic novels within this multimodal framework, teachers may see a greater value of graphic texts. Graphic novels share a number of features with other forms of multimodal materials; for example, the content of the Internet, web pages, interactive multimedia, movies, TV, among many others. To read and write multimodal texts require students to actively engage in the meaning-making process and to use all possible resources they have; for instance, knowledge, life experiences, interests, and multiple skills including linguistic, audio, visual, gestural, and spatial, and so on. Therefore, engaging students in multimodal texts such as graphic novels by reading and creating graphic texts is believed to help students develop critical literacy skills and become active creators and evaluators, not just passive consumers, of multimodal materials (Handsfield, et al., 2009; Jacobs, 2007).

Deeply rooted within this new framework, this study was designed to explore the use of such a new multimodal material, a web-based 2.0 graphic novel making tool, by secondary students of English in a composition task. In light of multimodality and new literacy perspectives, the study attempted to answer three research questions:

1. How does a web-based 2.0 tool help secondary students compose their graphic novels?
2. How were the students' composing experiences with the online tool?
3. How might we, as English teachers, learn from the use of this web-based 2.0 instructional tool in teaching writing?

3. Method

3.1 Participants

The study was conducted at a Midwest secondary school in the USA. The researcher co-investigated with a school teacher since who was also interested in using graphic novels as an instructional tool. The idea of using a web-based graphic novel making tool to create graphic novels was explored with this teacher's students.

A consent form was sent to all eighth and ninth graders and their parents. Sixteen students agreed to participate, though only five students were included for this study. We used maximum variation, criterion, and snowball strategies (Creswell, 2007) as sampling criteria. These five students (two males and three females) were Americans who represented a diverse group of mixed literacy skills (grade eight and nine), ranging from basic to advanced levels. Some students enjoyed writing and reading while others were considered reluctant readers. The students' interests also varied: some reported to love playing soccer or video games; others loved listening to music, reading books, or professional painting (see Table 1 for brief demographic information of the participants).

Table 1: Demographic information of the participants

Name (Pseudonym)	Gender	Grade	Literacy skills	Interests
John	male	nine	advanced writing and reading	writing, reading
Sam	male	nine	above average	computer games
Becky	female	eight	good writer, fluent speaker	painting
Sarah	female	eight	reluctant writer, good reader	soccer, music
Helen	female	nine	reluctant writer and reader	music

Though varied in their literacy skills, these students had basic computer skills and interest in reading graphic novels. The students were reported to be competent in typing, browsing web pages, and online sharing. Before the web-based 2.0 online graphic novel making tool was introduced to these students, the researcher and the class teacher allowed the students to browse and read their favourite printed graphic stories. These graphic novels were different titles recommended to use with young learners (see Carter, 2010, for complete lists of recommended graphic novels and rationale for teaching graphic novels). The class teacher also taught the students some basic skills about how to create a graphic novel by hand, such as paneling, transitions, and background (McCloud, 1993).

3.2 Instrument

A web-based 2.0, online graphic novel making tool, toondospaces.com, was chosen as a main instrument for the study. This tool was selected because it had most of the features and functions a 2.0 technology offers. Toondospaces allowed its users to compose, share graphic stories online, and interact with other users (Handsfield, et al., 2009). After a hassle-free registration, the users were able to compose stories with basic graphic making skills (i.e. drag and drop, type). They were also able to use built-in customizable items (e.g., characters,

backgrounds) to supply more details to the stories. For users who were good at drawing, they were able to draw characters, photos, background by hand and then uploaded them onto the website . Once finished, students could publish their stories online and share them with a broader audience. Students were able to comment on other stories and receive feedback from their friends. This website was guaranteed for use in educational settings by its producer because the graphic content was tailored and monitored, and believed to be safe for students. Teachers could interact with the students by giving feedback on their stories. Teachers were also able to monitor the students' activities, to block stories whose contents might not be appropriate, or to select a good story to showcase before the class.

3.3 Data collection and procedure

At first, the students were introduced to this online tool. Each student then signed up for a user account and started exploring the website. A mentor text, composed by the researcher, was then presented as a warm-up to lead the students into the world of online graphic novels. The website's functions and features were briefly introduced to the students. Finally, the researcher demonstrated how to create a panel with this online tool by, for example, leaving space on a page where students create characters, background, and so on. Some techniques such as selecting a panel, choosing a background, objects or characters, inserting bubble speeches were also modeled.

The students worked with this web-based 2.0 graphic novel making tool to create their own stories in the laboratory at school two sessions a week, each session lasted 45 minutes. In total, the students spent six weeks: three weeks reading printed graphic novels and three weeks working with toondospaces to compose graphic stories. During this period, multiple

types of data were collected, including face-to-face interviews, graphic stories, students' written self-reflections, and the researcher's observation notes.

3.3.1 Interviews

The participants agreed to be interviewed after they had finished composing their graphic stories. The interviews were conducted in the school during class hours and morning sessions. Each of the five students engaged in a 15-20 minute face-to-face interview. The interviews were useful because only direct questions pertaining to the research questions were asked. The researcher did not have to worry about ice-breaking or rapport building since all students had interacted with the researcher, in one way or another, during the six-week experiment. The researcher was also able to triangulate the interviewees' responses with many other sources of data, namely graphic novels, written self-reflections, the class teacher's observations, and the researcher's field notes.

3.3.2 Graphic texts

The students' graphic stories created with the online tool were collected to have a clearer picture of how the students interacted with this tool. With both images and words, the stories were found to provide a vivid description of the students' thinking and how the ideas were articulated and presented. Each of the students was asked to compose at least one complete graphic story online. Once they finished, they were asked to share their stories with other students for comments and with the researcher.

3.3.3 Students' written self-reflections

After the completion of the graphic stories, the students were asked to reflect on both the composing process and their product. No specific guidelines or prompts of how to write reflections and what to write were provided. The students were simply asked to reflect on what they had been working on (the online graphic novel making tool) and what they had produced (their graphic texts). The reflections were either typed or written by hand.

3.3.4 Observation notes

The researcher and the class teacher took notes of the process as the students interacted with the website to make their graphic novels. These notes served as supporting documents, and as a source to triangulate other sources of data, such as interviews and graphic stories.

3.4 Data analysis

In total, more than 30 pages of interview transcripts from five participants, 25 pages of graphic stories with more than 40 panels, and a collection of five pages of written self-reflections and field notes were collected for analysis. To analyze the data, the constant-comparative method (Biklen & Bogdan, 1992; Corbin & Strauss, 2008; Creswell, 2007; Glaser & Strauss, 1967; Merriam, 2009) was used as the researcher compared and contrasted the emerging categories with new information gathered from data collection. As data analysis was taking place, key information from the interviews were highlighted and coded with a consistent coding system. The researcher went back and forth between these highlighted key components with the students' graphic stories, and then with their reflections, to cross-check if these key categories were supported by information from other sources of data. For

example, if a student's answer was: "I often combine both words and images to show my story," this piece of information was coded as "texts + visuals." Then the key information was double-checked by examining closely the student's story, using McCloud's (1993) analysis of components of a graphic text. The researcher also identified supporting details from the student's reflection before grouping this key component with other similar components to make a single category.

Several similar categories were organized into a major category, or an emerging theme. The process of coding, constant comparing and contrasting key information among the multiple sources of data repeated as the researcher went through most of the data. Key components with supporting details were grouped into a single category; categories that shared similar content were organized into a recurring theme. Key information without supporting details was also noted, but not included in the findings.

The process of coding, comparing and contrasting among multiple sources of data helped the researcher to come up with seven preliminary themes: (1) combination of visuals and texts to tell stories; (2) the tool that helped to generate ideas for stories; (3) enjoyment and comfort in using the tool; (4) the tool that reduced the burden of drawing; (5) character creation function was fun; (6) the tool's functions was limited; and (7) technical issues reduced students' motivation.

These initial themes were triangulated with the students and the class teacher. Multiple correspondences with the class teacher and the students helped the researcher verify the preliminary themes and narrow them down to three major themes, after eliminating overlaps. The three major themes are detailed in the section that follows.

4. Results

Analysis of the students' interviews, graphic novels, reflections, and other sources of data showed three major themes and their sub-categories, as illustrated in Figure 1 below.

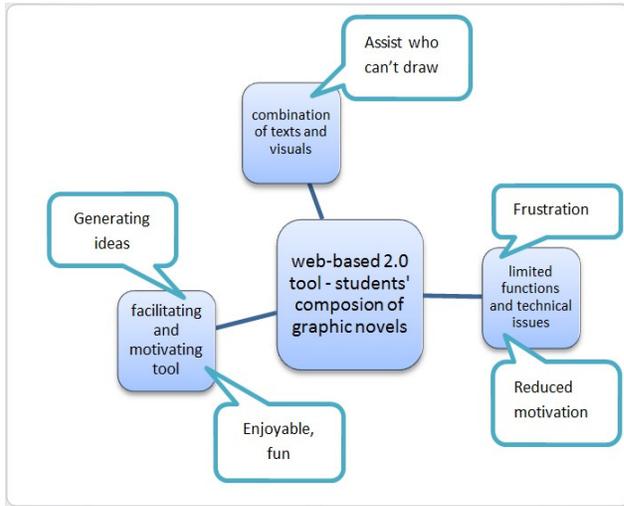


Figure 1: Three major themes and sub-categories

4.1 A combination of texts and images to express ideas

Using the online tool, the students combined words and images to compose their stories. For example, John, a ninth grader who preferred writing to drawing, and who considered himself a frequent writer but not a frequent drawer, found that this hybrid way of communication helped him convey more details to an audience, though he admitted that to combine visuals and text was not easy: “It [the tool] was interesting because it’s fun to draw and write. If you combine them, what you are seeing through is storyboard and the timeline that you had thought it out for them.”

Sarah, an eighth grader who was considered a reluctant writer but a good reader by the class teacher, shared the same thought when it came to the way she combined different media in telling her stories: “drawing and writing calm me down but I can’t draw so it really makes

me mad... [Using visuals in your story] makes your mind go creative and you can think of different things and brands out of what you normally do.”

A closer look at the graphic story by John illustrates the theme clearly. John attempted to combine both texts and visuals in showing his storyboard. McCloud’s (1993) perspectives in designing a graphic text were well documented in John’s graphic text. Through the use of panels, panel transition, background effects, zooming techniques, words and word bubbles, images, and colors, John articulated his idea clearly.

On the first page with one single panel (Panel 1), John used a panoramic frame in which he showed many armed soldiers running toward a group of skeletons lying on the road.

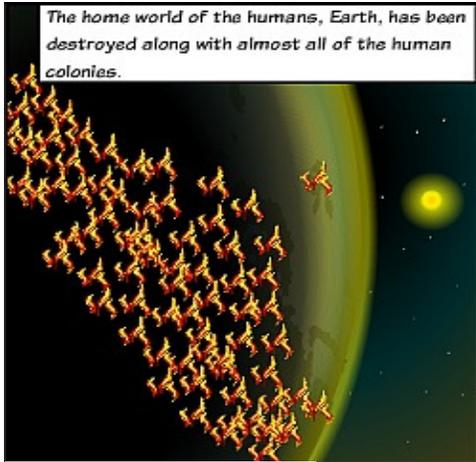


Panel 1: A panoramic frame

The text on top of the panel with such key words as *years, human race, at war, a race of extra-terrestrials* was in sync with these images of soldiers, gunning and deaths. His smart use of long square bubble speech seemed to enhance the prolonging effect of wars.

John’s use of background and text on the following panels once again strengthened the story board. On Panel 2, he showed a part of the earth in a close-up view, with some flying objects symbolizing human colonies. On Panel 3, he made a shot of a zoom-in galaxy, again,

and supported the text that the *only existing human colony* is preparing for the final invasion from aliens.



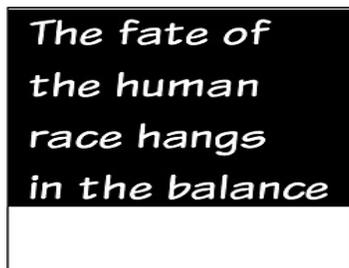
Panel 2: Human colonies



Panel 3: Terra X

The use of a large white font against the black background on Panel 4 seemed to emphasize bleak consequences following the invasion.

A combination of visuals and texts to create strong effects is illustrated in Panel 5. Observation notes showed that John searched and found a background photo on the Internet. He then manipulated it using photo editing software. He used the online tool to further create some smoky, cloudy or blurring effects to show the battle between two Alien warships in the space. Overall, the online tool helped John communicate his idea effectively on this panel.



Panel 4: Black and white



Panel 5: Outer-space battle

4.2 Facilitating and motivating tool

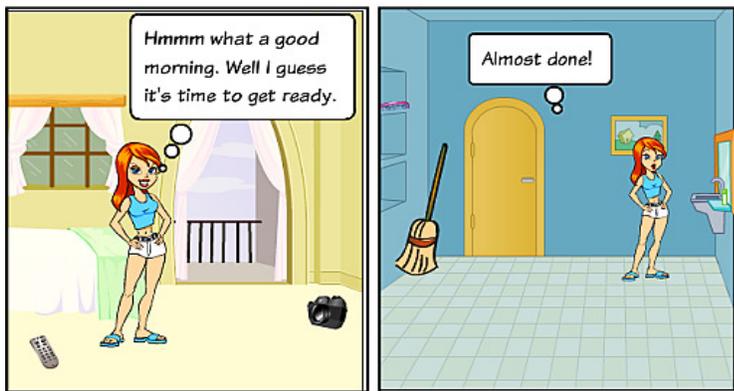
All five students reported that they enjoyed using the online tool to create graphic novels. For example, Becky responded that she found the website was fun to work with because the tool provided her with many options while it was easy to manage: “I found it really fun to just experiment with and it was really easy to use and really simple to navigate but it still gave you a lot of wide range of options and choices.”

Like Becky, Sam enjoyed working with the tool, claiming that, “[the tool] makes comic making a ton easier and once you get the hang of it you could do all kinds of stuff.” Helen also shared the same idea when she confirmed: “I actually like the site...it’s actually easier. My drawing suffers, I can’t draw; so I had something to pick from”. She later wrote in her reflection to express her preference over the online tool: “I like it [the tool] better than drawing my own up [by hand].”

For Sarah, the online tool was just “inspirational” and she found it very comfortable to work with: “It was really fun. I was glad that you introduced it to us because now I can play on it to make a new one.” She seemed to be very interested in the tool to affirm that there was not anything that she did not like about the tool, and that she would visit the site again to

make more graphic novels. Sarah's enjoyment with the online tool seemed to be reflected in her composing process. At first, Sarah worked with the website and created three panels (Panel 6, 7, and 8).

It was clear that her story was short and there was probably no connection between Panel 7 and Panel 8. Sarah later revised her story. During her second attempt, she added more details, making her story clearer and more coherent.



Panel 6 and 7: Sarah's First Draft



Panel 8: Sarah's first draft

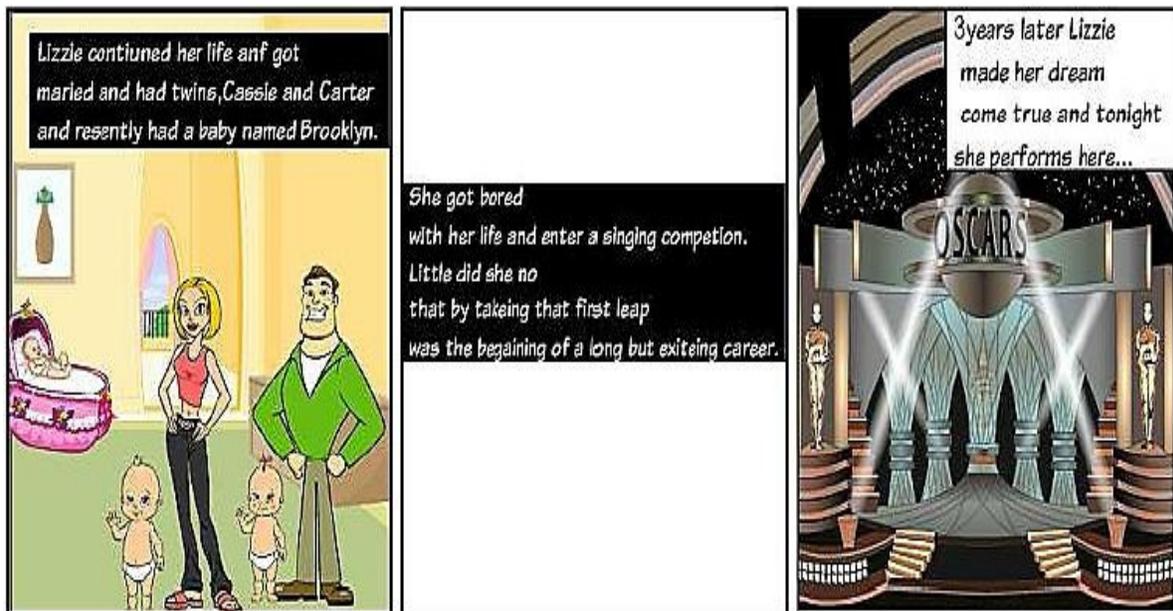


Panel 9: Passion for music



Panel 10: Passion growth

In her revised story, she narrated the life of a small child who had a strong interest in music (Panel 9). The child became a woman as her music passion grew along. Though the young lady lived a normal life, she never gave up her dream of becoming a star singer (Panel 10). Sarah ended her story with a happy ending. The young lady's dream came true as she finally became an Oscar winner (Panel 11, 12, 13, 14). Sarah combined images and words to show a complete story with her own voice. She enjoyed composing the story with the online tool as she spent time revising the first draft to make it complete. Her revision was done a few weeks after the experiment ended.



Panel 11, 12, 13: Happy life 1



Panel 14: Happy life 2

The online tool was found to be motivating; all students recalled interest and fun when using the online tool to make graphic novels. For example, Sarah believed that tool was facilitating as she enjoyed working with it:

toondospaces was an amazing website to work on and it was fun to play with. My ideas came from my mind, but I didn't really think about it until I started making my comic strip.

Likewise, Becky wrote in her reflection that she enjoyed using the website. She reflected that the tool was “a fun alternative to a dreary boring lecture.” She also stated that that the tool was motivating and that it helped her draw and write to communicate her ideas:

Toondospaces is a fun alternative to a dreary boring lecture that we would have gotten otherwise...It is a good alternative to simply writing it, or drawing it. It is an interesting way to explore both media.

Like the other students, John reflected after completing his graphic story that “it was quite a bit of fun trying to get the website to work with us”.

4.3 Limitations and technical issues of the tool

The students reported that this networked tool had some limitations, and that some technical issues bothered them. The students claimed that the online tool had limited functions such as fixed paneling while limiting the number of built-in images. They also maintained that the Internet connection during the first day of working with the tool frustrated them. The field notes showed that this technical glitch was due to the whole school district's server crash, which prevented them from using the tool.

John, Becky and Helen expressed their frustration with the tool because of its restricted functions (i.e. insufficient number of background images, limited options) and its inflexibility (i.e. rigid paneling). John admitted that he was annoyed at the way “it [the website] didn’t have exactly everything I need to build to make my own character.” And in fact, John repeated this concern several times during the interview. Becky complained about the inflexibility of the tool, which did not allow her to create creative panels:

If I could change something about it, I think that I might have an option where you can do a little bit more creative paneling. I understand why [the online tool did not allow this function]. It was on the website, so it would be difficult. But I felt kind of restricted with just the squares [square panels].

The second issue that the students were dissatisfied with was the technical aspect of the tool. The Internet system crashed the first day when the students started using the tool, as John expressed: “I don’t like it [the tool] when it wouldn’t let us in the first day...the technical difficulty that we had the first day is frustrating.” The negative feeling was also found in Becky’s interview as she complained about the crash, though she admitted that such a technical problem was out of the teacher’s control: “[I liked the tool] when it was functioning correctly...and yes, that was the public school’s false”.

In summary, analyses of multiple sources of data showed that the online graphic novel making tool assisted the students to combine both words and images to express their ideas. The students also enjoyed working with the tool which they found facilitating and motivating. Finally, the students expressed their concerns over the tool’s restricted functions and inflexibility, and unexpected technical issues associated with internet connection.

5. Discussion

The students combined more than one medium to communicate their ideas. As the results show (see Figure 1), the students utilized all the images the online tool offered and combined these images with their own texts to showcase their stories. With many built-in customizable graphics (i.e. characters, backgrounds, images), the tool assisted the students, especially whose drawing skills are poor, to compose stories. Sarah and Helen, for example, admitted that their drawing skill was insufficient, and that they enjoyed using the tool to make stories. John used a number of complex techniques and skills in designing his story (i.e. the use of panels, transition, colors, spaces, background, characters, and even font sizes and bubble speech). As a result, John's story was rich and meaningful in both visuals and texts. Schwarz (2006) notes that rich-in-visuals graphic novels might help students develop more complex cognitive skills than text-alone materials do. Using this new genre, the students had to pay more attention to both literacy components (i.e. character, plot, dialogue) and to visual and spatial elements (i.e. color, panel layout, background, layout, gutters). If it is the case, the networked tools not only had motivating impact on reluctant readers (Frey & Fisher, 2004; Haugaard, 1973; Koenke, 1981; Thompson, 2007) and struggling writers (Allington & Cunningham, 2003), but also positively assisted poor drawers like Helen and Sarah in this study. Moreover, the multimodal texts such as those created by the participants not only served as a stepping stone to learn other higher skills (Koenke, 1981; Yang, 2003) but probably supported higher order thinking (Fox, 2011; Hedberg & Brudvik, 2008) and have potential of developing cognitive skills (Mallia, 2007). These graphic stories are more likely to become an outlet for the students to construct their meaningful communications and to express their ideas (Daud, 2011; Morrison, et al., 2002). Practicing creating multimodal texts

such as composing graphic stories with a 2.0 technology like the one explored in this study is likely to help prepare students to be critical consumers and makers of multimodal skills (Fox, 1994; Handsfield, et al., 2009; Jacobs, 2007).

How did the students experience the tool? The students were positive about this online graphic novel making tool; they believed that the tool was facilitating and motivating. Becky and Sam argued that the tool was motivating and a good alternative to traditional, less engaging materials. Using the tool made it easy for them to combine different forms of media to voice their ideas. Sarah commented that the tool was “inspirational, fun, and amazing” to work with, and that working with the tool helped her come up with the idea for her story. Helen preferred working with the tool to drawing pictures by hand. These findings supported previous claims about the effects of web 2.0 technologies. Web 2.0 technologies have been argued to positively impact traditional literacy skills as they motivate learners to write and share the products online (Karchmer, 2001; Putnam, 2001). The technologies serve as a mediating tool among young learners to understand literacy terms and other classic literary works (Bucher & Manning, 2004; Hatfield, 2006; Khurana, 2008) and create a more active learning environment (CEO Forum, 1999; Nicaise & Barnes, 1996).

The fact that Becky and Sarah preferred this online tool by pointing out that the tool was “a fun alternative to a dreary boring lecture” might call for a wider review of printed instructional materials. The new concept of instructional materials is that they should be both informative and motivating, and include traditional prints and multimodal texts, such as movie clips, websites, graphic novels, music, cartoons, photographs, and advertisements (Wade & Moje, 2000). Though challenging, teachers should “re-conceptualize classrooms as semiotic spaces in which children have the opportunity to construct meaning with a wide

variety of multimodal texts, including visual, written, spoken, auditory, and performative” (Norton, 2003, p. 146). By exposing the students to more multimodal texts such as the digital graphic stories explored in this study, this study argues that the students will familiarize with new types of materials and that they will be able to actively navigate through them.

Graphic novels have a lot of things in common with other forms of multimodal materials, e.g., the content of the Internet, web pages, interactive multimedia, movies, TV. To handle multimodal texts requires students to actively engage in the meaning-making process and to use all possible resources they have, e.g., knowledge, life experiences, interests, and multiple skills including linguistic, audio, visual, gestural, and spatial, among many others. Such an exposure to graphic novel reading and graphic novel making may probably help the students to develop critical literacy skills in the meaning-making processes (Jacobs, 2007; Khurana, 2008), and gradually prepare them to become critical consumers and producers of multimodal materials (Handsfield, et al., 2009; Hedberg & Brudvik, 2008).

The students in the study were able to pinpoint the limitations of the online tool’s functions, e.g., limited features, inflexibility of paneling, and some technical issues that affected their composition process, such as the Internet problem. While it is clear that the restricted functions might result in the students’ frustration, the fact that the participants were able to pin down those limits of the tool and technical glitches might be a positive sign. By bringing digital multimodal texts such as one in this study into classrooms, teachers will probably help students develop multimodal skills to critically assess strengths and weaknesses of other multimodal materials – a set of skills to become “multimodally literate” learners (Jacobs, 2007, p. 24) who are active producers and evaluators of multimodal materials (Handsfield, et al., 2009; Jacobs, 2007; Norton, 2003). Mastery of these skills is also crucial

as digital media fluency, computer, and internet communications, among many others, will construct technology literacy for the 21st century (Silva, 2009; Wade & Moje, 2000).

6. Implications for Teachers of English

As Karchmer (2001) notes, the convergence of literacy, the internet, and literacy instruction is becoming clearer. There is a challenge that teachers should re-conceptualize classrooms so that students will be able to engage in multimodal texts including visual, textual, audio, and so on (Norton, 2003). Teachers should therefore be pioneers in helping students develop multimodal skills. The findings of the study suggest several implications for teachers of English, in both L1 and L2 contexts, who want to use web 2.0 technologies as an instructional tool. First, teachers should select online tools that are interactive in nature. Interactive tools will allow teachers and students to communicate, share information, and learn from each other. Students will be able to actively engage in the processes of meaning-making and meaning-negotiation when they interact with multimodal tools. And in fact, as the findings in the study have showed, students are more likely to favor multimodal tools that allow more flexibility which promotes creativity.

Given that students are now living in a world full of multimodal texts and tools, diverse in width and rich in depth, teachers should select motivating and informative networked materials that would engage and draw students' attention, regardless of being English native speakers or ESL/ESP learners. Fun and engaging materials are more likely to bring more enjoyment and comfort, which scaffold traditional literacy skills and eventually help develop multimodal skills.

Teachers should also expose students to more multimodal texts, and prepare students to become critical consumers, contributors and evaluators of those materials. Teachers might start by offering guidelines or specific directions. They then gradually remove the assistance so that students will be able to work, evaluate, and critique those multimodal texts independently when they encounter them. Since graphic novels share many features with multimodal texts, composing graphic novels with an online tool as with the students in this study might be one approach that teachers may consider. As facilitators, teachers must be well-prepared before using networked technologies in their classrooms. As many of the technical issues (i.e. internet disruption, server crashes) may be out of their control, teachers must also have back-up plans in case such glitches and mishaps happen.

The findings of this study should be interpreted with care because of the following reasons. First, the findings reported were based on data collected from five students in the same school. Though the students varied in their grades, literacy levels, genders, interests, and other skills, the results might not best representative. Second, due to restriction in having access to the students after school, the timing of interviews was not well exploited as the researcher would have preferred. Though the researcher did rely on many other sources of data, this might weaken the findings of the study.

Third, the fact that the researcher was not able to conduct follow-up interviews was a concern. The study was conducted at a public school, during regular business hours, and at the end of the semester. These conditions combined made it hard to have access to the students after school, once the data collection period ended.

Bearing in mind these weaknesses, future studies should take the followings into consideration. First, if possible, more sampling strategies may be used to have more diverse

groups of students. In other words, students in a different context (i.e. L2 setting), at a different school, vary in literacy skills, and grades (i.e. elementary or high school students) might be recruited. Depending on the nature of participants and contexts, if at all possible, future research should include longer interviews. If the consent allows, researchers should schedule the interviews after school, or at the students' homes. Finally, depending on the circumstances, future studies should include follow-up interviews, or a tracking approach, to monitor the students' progress after the completion of data collection. These approaches would enhance the validity and reliability of the findings of a study.

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