

Lessons in Lexical Error Analysis. Revisiting Hemchua and Schmitt (2006); an analysis of the lexical errors in the compositions of Greek learners

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Abstract

This paper replicates Hemchua and Schmitt's (2006) study into types and frequency of lexical errors in Thai university students' compositions. To investigate the usability, reliability and validity of their framework, 20 Greek learners' compositions were analysed, following the original methodology. Results concerning the number, distribution and frequency of lexical errors were remarkably similar; approximately one third of all errors were formal, two thirds were semantic and less than 13% were attributable to transfer. Four of the five most common sub-categories of error in the replication were also found in the most common five sub-categories in the original study, suggesting that the framework, when applied to a different context and nationality, produces similar results and may reveal common problems between different English learners with different first languages. Difficulties in error identification and categorisation are discussed in detail, and suggestions for development of an improved framework for analysing lexical error are made.

Keywords

Error analysis, Lexical error analysis, Formal errors, Semantic errors, Transfer errors, Marking written compositions

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1.0 Introduction

This paper addresses a gap in the literature in lexical studies; more knowledge is sought to improve Lexical Error Analysis (LEA). The few existing studies are discussed below. After some decades when error analysis had fallen out of favour, Hemchua and Schmitt (2006) sought to create a new framework for LEA with the aim

of providing a reliable and accurate procedure for establishing the type and frequency of lexical errors made in English Language learners' writing. Using this framework, which added considerable value to earlier models (e.g. James 1998), Hemchua and Schmitt categorised and counted the lexical errors in the written compositions of 20 advanced Thai learners of English. They found that approximately one third of all errors were formal, approximately two thirds were semantic and less than a tenth were attributable to language transfer. Hemchua and Schmitt's framework was chosen as it built on previous work by James (1998) and Leech (1981) and its impact is evident in later work (cf. Agustin Llach 2011, Al-Shormani & Al-Sohbani 2012 and Al-Shormani 2014a and b). Although several other frameworks have been developed for error analysis (e.g. Dušková 1969, Zimmerman 1986a, 1986b and 1987, Meara and English 1987, Lennon 1991, Zughoul 1991, Engber 1995 and Augustin Llach 2011), Hemchua and Schmitt's was selected, as it is the most comprehensive and recent holistic framework that focuses on LEA for adult language learners. It has had considerable impact in that it has been cited 33 times in other peer-refereed journal articles (a relatively high number).

Using the Hemchua and Schmitt (2006) framework, the compositions of 20 Greek advanced students' compositions were analysed for lexical errors to establish the number, type, and most frequent error type, and to ascertain how many were attributable to L1 transfer. The following specific difficulties were envisioned: decisions about the acceptability of lexis (should this be considered an error?); as the boundary between what is grammar and what is lexis remains blurred (Lewis 1993), it would be difficult to decide what a lexical error was and what should therefore be included in the analysis, and what a grammatical error was, and should therefore be excluded. Problems were also anticipated with allocation to category of error (type) and cause (what made the learner commit the error?). Particular difficulty was predicted for differentiation between types of error in the 2006 framework, for example 'wrong near synonym' and 'collocation errors').

2.0 Literature/Theoretical Underpinning

In the context of lexical approaches to ELT gaining ground (Lewis 1993), it is timely to revisit the 2006 study and its applicability to contemporary ELT pedagogies. This paper replicates Hemchua and Schmitt's (2006) study for the following reasons:

- given the central importance of lexis in language learning, LEA seems to be vitally important in understanding issues in the acquisition of lexis. It is also a useful method for identifying where lexis learning has not taken place and identifying areas for remedial teaching/correction. Further, this paper provides further research into evaluation of the accuracy of student work, which is a large part of what teachers do, even if informally. The rise of lexical criteria in IELTS and other exams make having a swift and accurate framework potentially very useful for markers and teachers.
- recently, a more modern view of language as 'grammaticised lexis and not lexicalised grammar' (Lewis 1993) has emerged, i.e. the building blocks of language are lexicalised phrases or formulaic chunks of language, as opposed to grammatical structure. With this change in a view of language comes a greater interest in Formulaic Language (Wray 2008). Lexical Error Analysis encompasses error analysis in phrases or chunks of language.
- LEA is an under-researched area. Hemchua and Schmitt (2006; 3-4) reiterate the importance of lexis in second language writing, but correctly point out the

lack of research into the type and frequency of lexical errors that second language learners make. Their review of the literature concludes that lexical errors are the most frequent errors (Grauberg 1971, Meara 1984 and Lennon 1991), that they significantly affect the quality of academic writing (Astika 1993, Ellis 1994 and Engber 1995), that native speakers find them the most irritating (Santos 1988) and that they are less generously tolerated outside the classroom than errors in syntax (Carter 1998). According to Tschichold, (2003 in Shaalani, et al 2015), ‘Traditional error analysis studies do not address lexical errors well enough, although there are a large number of word-related errors that are committed by non-native language users’ It is hoped that this study will facilitate the design of a more practitioner-friendly framework for the analysis of lexical error.

- to establish the reliability and validity of their framework. Using compositions from learners of a different nationality, it was felt that a replication study might help provide confirmatory evidence that learners of a similar background at a similar stage of development, but of a different nationality, made similar errors in terms of type and number. If results were found to be similar, it would verify Hemchua and Schmitt’s (2006; 3) claim that their findings would be ‘of interest to wider English as a Second Language (ESL)/English as a Foreign Language (EFL) contexts’ and would be a first step in investigating whether lexical error type and frequency are indeed universal across nationalities.
- to investigate how problematic issues associated with LEA really are. Previous attempts to conduct error analysis have encountered problems, such as identification of error, identification of cause of error and classification of error type (Shachter and Celse-Murcia 1977). It was expected that there would be similar problems in conducting this replication (see Section 5 below). Indeed, Hemchua and Schmitt (2006; 7) point out that ‘in some cases (relatively few), more than one categorisation was possible.’ However, regardless of the less than 100% accuracy of LEA categorisation, for reasons above, the potential benefits of LEA still make it a valuable exercise.
- to find a way to address these problems. Issues in the identification and classification of errors could be identified and addressed to subsequently create an even more user-friendly LEA framework with guidelines that can be used by practising EFL teachers who do not have much training in linguistics.
- to provide consistency in the field. ‘No two previous studies on lexical errors have adopted the same error typology’ (Kallkvist, 1998, p. 82). This raises questions of replicability. Finally, there is a growing place for both confirmatory and non-confirmatory replication studies. Porte (2012) argues that although replication studies do not aim for genuine novelty, there are insufficient replications in Applied Linguistics and that they are required to establish how second language takes place. They also help to ascertain whether, whether original findings are reliable and whether they can be generalised to other participants and circumstances.

3.0 Methodology

This section describes the research questions, participants, ethical considerations and how the two studies were conducted.

3.1 Research questions

Hemchua and Schmitt (2006) investigated the following research questions. The replication study used the same questions, but with reference to Greek learners.

- 1) What lexical errors do third-year Thai University students make in their English compositions?
- 2) Which of the errors are the most frequent?
- 3) How many of the errors are attributable to L1 transfer?

3.2 Participants

In the 2006 study, there were 20 participants with approximately ten years' English Language learning experience (3-5 hours per week). They were in the third year of their undergraduate degree in a university in Bangkok. Their essay brief was 'What are the advantages of country or urban living?' In the 2016 study, participants were 20 Greek students enrolled in a private language school in Athens, studying for IELTS. On average, they had been taught EFL for approximately eight years for two hours per week (less time overall than their Thai counterparts in the original study). Their essay brief was 'Should a government be able to restrict the number of children that a family has?' In both studies: participants were similar in age, ranging from 18-26 years old, but factors such as sex and age were not controlled; both groups had little English-writing experience in their primary and secondary schools, but had received some instruction in how to structure an essay, particularly the type of discursive essay found in the data. Both sets of participants were asked to write a 300-350 word argumentative composition without consulting their dictionaries, within 1.5 hours.

3.3 Ethics

Participants were told that their writing was being studied, but the focus on vocabulary was not made explicit, as it was felt that this might alter their performance. Full informed consent was obtained.

3.4 Analysis

The essays were analysed closely following Hemchua and Schmitt (2006); first, the correct forms of all errors were noted by two experienced native English teachers. Next, primarily to identify L1 (first language) interference, the errors were then categorised by a bilingual native speaker; Thai and Greek native-speakers, in the 2006 and 2016 study respectively. In the first study, the bilingual Thai native-speaker was the first author. In the second study, an experienced, proficient translator was chosen. These first-raters consulted with the other authors and experienced EAP Native-speaking English Tutors. The participants were not interviewed retrospectively regarding the meaning behind any of their errors. Allocation of errors to categories (see categories in Table 1 below) was completed with the following rules:

- 1) Erroneous words and collocational phrase errors were included in the count, each counted separately.
- 2) Multiple errors in a phrase were counted separately.
- 3) Exact duplicates of errors in the same paper were counted once.
- 4) When an error could also be classified as L2 or transfer error, it was allocated as a calque error, regardless of the linguistic type (e.g. a collocational error) of error.
- 5) Phrases, such as **You will wake up to voice's bird*, are classified as a connotative meaning error.

Grammatical errors were excluded, following these rules:

- 6) In fixed phrases, such as ‘*What’s *a matter?*’, the error was considered collocational.
- 7) Other errors with articles were excluded.
- 8) ‘Clause errors’ were ignored (e.g. *It’s not difficult *for getting to a hospital*). This was interpreted as reduction in adverbial clauses errors (e.g. *While waiting, my hamburger went cold*) and errors in relative clauses (pronoun and referential).
- 9) ‘Sentence errors’ were ignored (e.g. *I didn’t think *how kind they were*). These were interpreted as errors in countability, tense, redundancy, verb agreement and ambiguity/coherence.
- 10) Inter-sentence, or cohesion errors were ignored (e.g. *When someone want’s one’s help, *he will help each other*)
- 11) Only derivational affix errors (e.g. **He is kind and considerable*) are included, not plurality, genitive, tense, third person singular, comparative nor superlative.

In Hemchua and Schmitt (2006), both authors analysed the data, but they did not discuss rater-reliability. In the 2016 study, two raters (native speaker, experienced English Language teachers and examiners) were asked to categorise errors in the first five essays in order to establish whether they could easily use the framework for LEA; there was some disagreement between them (See Section 5.).

4.0 Results

This section presents the results in terms of comparison of word count, standard deviation, error count, and the types and frequency of errors. In general, the total number of errors and distribution of error types, and therefore the answers to research questions (number, type of error and the most numerous) are remarkably similar to those found in the original study (see Tables 2-5 below). It also discusses similarities between the two sets of results and offers some implications of these results.

4.1 Word count and standard deviation

As can be seen from Table 2 below, the mean length of the 2016 compositions was around 50 words shorter than those in the 2006 study. Also, the earlier study’s compositions had a greater range of words than in the 2016 study.

4.2 Error count

Firstly, in the current study, the two experienced native English teachers agreed on the identification of virtually every error in their sampling (25% of essays). This contradicts error identification concerns raised by Ellis (1994).

As shown in Table 2 above, there were 261 lexical errors in the 2006 study with an average of 13.05 errors per paper (one error per 26.46 running words). The 2016 compositions yielded 284 lexical errors (one error per 20.81 running words).

Interestingly, there were more errors in total found in the 2006 study, despite the significantly lower total word count. However, the two total numbers of lexical errors (a difference of 23 errors) and the percentage of lexical errors per total word count (a difference of 1.02%) are remarkably similar. Despite the differences in total word count, both the average number of papers per error and the number of errors per number of running words also showed interesting similarity.

In terms of total word count, there were fewer errors in the Greek essays. There could be several reasons for this. Although both languages have a different script from

English, Greek is less distant from English than Thai. There are many borrowings from Greek to English, Greek is an Indo-European language and shows more morphological variation than Thai in morphology (word families). Perhaps Greek learners are more attuned to inflexion and derivation? Perhaps this explains why there are proportionally fewer errors in categories A1.1 and A.2. Greek roots are often used to coin new words in English.

4.3 Types of errors made

As mentioned, in the 2016 study, two raters (native speaker, experienced English Language teachers and examiners) were asked to categorise errors in the first five essays in order to establish whether they could easily use the framework for LEA. There was a little divergence of opinion as to which category some errors belonged. Where this occurred, problems were noted for discussion (See Section 5). Issues were also noted for discussion when the main author categorised the errors. This information would be potentially useful for the development of an improved, future framework for LEA.

4.3.1 Formal and Semantic errors

As shown in Table 3 below, there was also much similarity in the distribution of the general type of error in terms of formal vs semantic between the two studies. In both, approximately two thirds were semantic and one third was formal, despite the higher mean word count in 2006. The 2016 study identified slightly fewer formal errors but more semantic errors. The fact that two thirds of the errors were semantic errors underlines the difficulty in semantic knowledge acquisition (sense relation, collocation, connotation and register). Although less frequent, formal errors accounted for approximately one-third of all errors arguing that learners would also strongly benefit from developing their morphological and formal knowledge of lexis (misselection, misformation and distortion).

Problems with Formal Errors

As shown in Table 4 below, the most frequent formal error in the 2006 study was A1.1 SUFFIX TYPE (9.2% of total errors), underlining the problems that Thai students had with word families. The second most frequent error type was A2.3 CALQUE (TRANSLATION) errors, but this category only accounted for 6.9% of all errors. This confirms the work by Richards (1971) which states that L1 transfer errors account for only a small portion of total learner errors. In 2016, the most frequent formal errors were A2.3 CALQUE, followed by A1.1 SUFFIX TYPE and then A3.1 OMISSION. Interestingly, these were the three most frequent categories in the original study also, but the rank order in 2006 was A1.1 SUFFIX TYPE, followed by A2.3 CALQUE, then A3.1 OMISSION (see Table 4). The totals for A1.1 SUFFIX TYPE and A3.1 OMISSION were remarkably similar between the two studies, but the number of A2.3 CALQUE errors was almost double in the current study. Perhaps this is due to the fact that the Greek learners knew that their L1 was not very distant from English and they felt that they could use word-by-word translation more confidently to express their intended meanings.

Several categories saw very few errors in either study, confirming that they are lower frequency errors (A1.2 PREFIX TYPE, A1.3 VOWEL-BASED TYPE, A1.5 FALSE FRIENDS, A2.1 BORROWING, A2.2 COINAGE, A3.3 MISSELECTION, A3.4 MISORDERING and A3.5 BLENDING)

Problems with Semantic Errors

The most frequent error in this area in 2006 was B1.4 NEAR SYNONYMS, accounting for 19.54% of all errors. There were three broad error sub-types found in this category; use of informal words for formal ones; non-identical meaning of synonym used and appropriate synonym and two words close in meaning, but different in usage. The second most frequent error in this area was B2.4 PREPOSITION PARTNERS (12.64%). These could also be sub-divided into three categories (omission of preposition, addition of preposition and substitution of preposition; substitution was the most frequent). These two types were the two most frequent error types overall, as well as in this area. However, in the 2016 study, the most common error types were B2.1 SEMANTIC WORD SELECTION and B2.4 PREPOSITION PARTNERS, followed by B1.4 NEAR SYNONYMS. Interestingly, there were over nine times more B2.1 SEMANTIC WORD SELECTION errors in 2016. There were four and a half times more B4.2 UNDER SPECIFICATION errors in the 2016 study (see Section 5.3 for discussion of categorisation issues). In the two studies, there were very similar amounts (a difference of four or fewer total number of errors) of B1.2 OVERLY SPECIFIC TERM, B1.3 INAPPROPRIATE CO-HYPONYM and B4.1 VERBOSITY errors.

4.3.2 Most common errors overall

Specific answers to research questions can be found in Table 5 below.

Table 5 shows the ranking of the 24 error types in terms of frequency. The five most common types of errors in the 2016 study were, in order of frequency, B2.1 SEMANTIC WORD SELECTION, B2.4 PREPOSITION PARTNERS, A2.3 CALQUE (TRANSLATION), B1.4 NEAR SYNONYMS and A1.1 SUFFIX TYPE. In 2006, the five most common error types were, in order of frequency, B1.4 NEAR SYNONYMS, B2.4 PREPOSITION PARTNERS, A1.1 SUFFIX TYPE, A2.3 CALQUE (TRANSLATION) and B4.1 VERBOSITY. In both studies, two categories yielded no errors whatsoever. This shows that errors are indeed not evenly distributed across the error-type spectrum and that some error types are more frequent.

These are similar findings and support Hemchua and Schmitt's (2006; p22) hypothesis that the lexical errors discussed are likely to be problematic for a wide range of L2 learners. Six of the eight most frequent categories were common to the original study and the replication. However, one result stood out as quite different from the 2006 study (the number of B2.1 SEMANTIC WORD SELECTION errors; see Section 5.3 for discussion).

A Spearman's rank correlation coefficient test was run to assess the relationship between the rankings of the most common categories of the two studies. There was a strong positive correlation between the two, which was statistically significant. A two-tailed significance test was also run. A strong correlation was found ($r=0.80$) and results were found to be significant at the 0.01 level. This also supports not only the validity and reliability of the framework, but also its transferability of use to other frameworks. One possible suggestion for any differences between the two studies' results is a possible difference in proficiency levels. The precise IELTS or TOEFL scores for the 2016 cohort is unknown, as at the time of data collection, they had not yet sat an IELTS or TOEFL test. However, looking at the Greek students' writing, they are estimated to be between IELTS 5.5 and 7. Martin (1984) states that the number of errors found in error analyses does not seem to reduce with higher proficiency levels. However, the higher the proficiency level, the more semantic errors are made. According to Table 4, only seven types of errors appeared in half or more of the compositions. This shows that learners were making different errors from each other. This in turn demonstrates the value of LEA to individual students. If learners could be

shown the types and the individual errors that they make, they may take more care in these areas and take steps to reduce them.

4.4 Summary of Results

- Both studies showed that students had more difficulties with semantics than the forms of words (approximately two times more).
- There was great similarity between the two studies in terms of frequency of category of errors. Four categories appeared in top five in each study. They were: B1.4 NEAR SYNONYMS, B2.4 PREPOSITION PARTNERS, A1.1 SUFFIX TYPE AND A2.3 CALQUE (TRANSLATION)
- In both studies, errors were mainly due to L2 difficulty, rather than L1 transfer issues (seven and 13% in 2006 and 2016 respectively).
- Only seven categories of errors appeared in half or more of the compositions.
- Several categories saw very few errors in either study, confirming that they are lower frequency errors and that errors are not evenly divided across the spectrum (A1.2 PREFIX TYPE, A1.3 VOWEL-BASED TYPE, A1.5 FALSE FRIENDS, A2.1 BORROWING, A2.2 COINAGE, A3.3 MISSELECTION, A3.4 MISORDERING and A3.5 BLENDING).

5.0 Discussion of issues in using the 2006 framework

This section details the issues that were encountered when using the 2006 framework.

5.1 Problems of error identification

As predicted, it was not always easy to decide whether certain expressions were erroneous, or simply could have been better expressed. However, there were very few instances of disagreement of acceptability between the first rater (the current author and the two expert EFL teachers and experienced examiners, who were asked to analyse the first five essays).

5.2 Grammatical vs lexical error

Hemchua and Schmitt (2006) stated some rules (See Section 3.4 above) concerning which error types are considered grammatical and should therefore be excluded from the analysis. However, the list proved to be not very comprehensive, some of these rules seemed to lack clarity and were problematic in implementation. For example; ‘Clause errors are ignored (e.g. *It’s not difficult *for getting to a hospital*)’. This could easily be interpreted as a lexical error since the word ‘difficult’ entails a subsequent full infinitive.

5.3 Problems of lexical error classification

Very often, as expected, errors could be assigned to more than one category. This section describes in detail the classification decision issues that were experienced during the LEA.

5.3.1 Formal Errors

A1.1 SUFFIX ERRORS

**All the people have obligation to obey this law.*
This could be categorised as a suffix error (All the people are obliged to obey this law) or it could be excluded as an article omission error (All the people have an obligation to obey this law). It could also be a whole sentence collocational error (Citizens are obliged to follow the law).

**Before 1980, the increasing rate was 2.9%, per year*

This could also be categorised as a collocation error (B2.1; ‘The rate of increase was...’).

**....and measurements have been taken by the government.*

This could be a suffix error or simply the wrong word. (There is no obvious category for wrong word that is not a near synonym.) It could also have been categorised as a collocational error (...measures have been taken...).

If a learner were to omit a suffix, it could potentially be categorised here or under B2.1.

A1.2 PREFIX ERRORS

**.....there are many people who immigrate in order to.....*

This could also be interpreted as the wrong word (B2.1 SEMANTIC WORD SELECTION)

A2.1, A2.2 and A2.3 L1 Transfer errors

It is felt that there is a fundamental flaw with the 2006 framework. Because all L1 transfer errors are assigned to A 2.1, A2.2 or A2.3, it hides the fact that this error may contain, for example an error with a preposition. The confusion here is between type (linguistic type) and cause (L1 interference or complexity of L2). **..... this is not the only solution for the problem.* Several calque errors were made with prepositional partners.

However, the Greek native speaker and first rater had no problems in identifying erroneous language. As she is an experienced translator with very good accuracy in English, she was able to identify instances of L1 interference easily. She stated that she did, however, have issues with the number of calque errors in a phrase or sentence. For instance, the sentence below could contain three: ‘all people there’, ‘aren’t in the globe’ and ‘next a few years’.

**.....all people there aren't in the globe next a few years.*

However, some of these errors could be seen as grammatical in nature, and not lexical: **This is seen especially in China where lives half the population of the earth.* Despite the fact that this error is a word for word translation from Greek, the type of error is clearly a syntax error and should therefore be excluded from the study. When analysing language at the phrasal level, problems of allocation to lexical or grammatical error are exacerbated.

5.3.2 Semantic Errors

As expected, this section caused the most difficulty in classification. This was because there were grey areas of acceptability. It was also difficult to decide if the error was B1.3 INAPPROPRIATE CO-HYPONYM, B1.4 NEAR SYNONYMS or B2.1 SEMANTIC WORD SELECTION. Associated with this was the difficulty in deciding what phrases occurred in sufficient frequency for them to be classified as collocation errors. This issue was overcome by the author categorising errors to B2.1 SEMANTIC WORD SELECTION if he decided that they were definitely errors within what he felt was a fixed phrase.

Perhaps this led to a larger number of B2.1 errors.

B1.4 NEAR SYNONYMS

**....and that is a very serious problem.*

There were instances when it was not clear whether Hemchua and Schmitt (2006) would have ignored an error, as it may be grammatical. They do not state that errors with deictic pronouns were omitted due to their traditional grammatical association. However, it is believed that in line with a more modern understanding of what

constitutes lexis (Lewis 1992), this is more in line with lexical choice and therefore, this quite common error was included in this category.

**There are much jobs but there aren't people.*

The same could be said for many/much, a noun countability word choice.

**Can the government oblige people not to have more or less children than the government decides?*

The same could be said for less/fewer.

**.....because every man has the right to....*

**.....and for old aged people*

Categorisation of incorrect stylistic choices were included here. Sexist or ageist language could also be considered a stylistic error. However, Category B4 only had two subcategories: B4.1 VERBOSITY and B4.2 UNDER SPECIFICATION.

B2.1 SEMANTIC WORD SELECTION

The greatest difference between the two sets of results is in the number of errors found in the category, B2.1 SEMANTIC WORD SELECTION (89 in the 2016 study and only 10 in the 2006 study). This could be explained, perhaps, by different categorisation procedures and subjective interpretations of the 2006 guidelines in terms of the differences between B2.1 SEMANTIC WORD SELECTION, B1.4 NEAR SYNONYMS, B3 CONNOTATIVE MEANING, etc. In the 2016 study, erroneous semantic word selection was taken as to include selection of completely wrong word, not just in collocations. This was done as there was no other apparently suitable category for this type of error. Perhaps this underlines the need for more detailed guidelines for how to categorise lexical errors. For example,

**.....by running a project, which is indicated to limit the number....*
Indicated is not a near synonym for intended. 'Which is intended to limit' is not really a collocational phrase. However, without a clear category for wrong word that is not a near synonym, it was included here.

**...there isn't poverty and some people are very good and have a good health.*
The two errors in this sentence illustrate the difficulty in classification between B1.4 NEAR SYNONYMS and B2.1 SEMANTIC WORD SELECTION. The first error could mean 'lucky' and is therefore a B1.4 NEAR SYNONYMS error. It could also be construed as a collocational error 'are very well' and should therefore be B2.1 SEMANTIC WORD SELECTION error. Similarly, the second error is classified as collocational (B2.1 SEMANTIC WORD SELECTION), as the correct version should probably be '....are in good health....' or '...are healthy'.

**But none of these countries have released a law like this as I know.*
The first error is clearly a B2.1 SEMANTIC WORD SELECTION error in the collocational phrase 'pass a law'. The second could be a collocational error; '...as far as I know'. However, it could also be B4.2 UNDER SPECIFICATION.

B2.4 PREPOSITION PARTNERS

Although numerous, no classification issues were encountered for this category. Hemchua and Schmitt (2006) clearly state that this category should be used for incorrect choice of, omission of and extra inclusion of prepositional partners. It would be useful, however to provide a breakdown of how many of these errors fell into these three sub-categories.

B4.1 VERBOSITY

**.....breakneck speed rate*

The inclusion of one extra lexical word could constitute verbosity. If not, a category entitled 'extra unnecessary word' would be required. This also raises issues of error count; should each extra, unnecessary word count as an error? This simply requires clarification.

**.....scientists will discover at the next centuries planets which will be essential for the living the people and so maybe the people solve the problem of population explosion.*

Lack of lexical substitution (the student mentions 'people' twice) could also be seen as verbosity, and given the lack of another category (cohesion) for this, it is included here.

B4.2 UNDER SPECIFICATION

**Although there is the danger of population explosion, it is believed that this is unfair for some people the moment that it is possible for them to find a way in order to avoid this kind of measurements which are very strict.* Perhaps the higher number of under specification errors can be explained by the fact that during the current analysis, instances of incoherence were classified under B4.2 UNDER SPECIFICATION in the absence of an 'Incoherence' category, as it was felt that meaning would have been clearer had the learner used more words to convey meaning.

**.....the government not be allowed to limit the number of children a family can have.* This category could include errors when a single word is missing. However there would still be issues with classification; if a preposition was omitted, it would be a B2.4 PREPOSITION PARTNERS error.

As can be seen from the issues above, some work could still be done to develop the framework to provide guidance and clarity to the classification process, especially for practising teachers with less training in Linguistics.

5.3.3 Miscellaneous Issues

As well as clarification of the issues above, there are some other areas for improvement:

- There is no category for when one word was incorrectly written as two (e.g. **every one*).
- The framework lacks a category for infelicitous language. This would help with trying to decide on acceptability.
- The framework would be improved with the introduction of a category for inappropriate slang or poor lexical selection for genre.
- The issue of incoherence needs to be addressed. When a learner produces an incoherent statement, it is difficult to categorise the error due to the fact that a plausible interpretation of the error cannot be made. This may lead to the error not being categorised or allocated randomly to a category. The result of this would be that these errors would be obscured from attention. Since incoherence errors are more serious in that they cause breakdowns in communication, it is important that they are dealt with systematically. Despite this being an apparent move away from the specificity of the framework, the addition of an incoherence category would be very beneficial to the learner, as it would highlight them.
- A final addition would be the inclusion of a lexical cohesion error category. (**.....scientists will discover at the next centuries planets which will be essential for the living the people and so maybe the people solve the problem of population explosion*). These errors could be considered lexical and were quite numerous in the Greek data, and would be quite simple to remedy if they are given attention

6.0 Implication to Practice

The results have implications for the teaching of lexis; if these issues are indeed universal for all nationalities studying English as a Foreign or Second Language, a greater focus on collocation and word families is required. This could be done by providing contextualised, authentic input, ensuring the noticing of collocational partners and by encouraging learners to use corpus linguistics to investigate collocations. Dictionary work and the completion of ‘word family trees’ would help to familiarise learners with different word family members.

This new research has provided confirmatory evidence to support Hemchua and Schmitt’s (2006) hypothesis that learners of a similar background at a similar stage of development, but of a different nationality, may make similar lexical errors in terms of type and number. This verifies their (ibid 2006; 3) claim that these findings would be ‘of interest to wider English as a Second Language (ESL)/English as a Foreign Language (EFL) contexts’. This new research fills a gap in the literature, as LEA is currently an under-researched area, despite the importance of: lexis itself; the importance of understanding how lexis is acquired and the identification of where learning has not taken place and therefore the areas for remedial teaching and/or correction. Hopefully, this paper has helped to fill a gap in LEA research, and will help to re-vitalise interest in LEA by encouraging practicing teachers to conduct LEAs of their own.

7.0 Conclusion

The results of the current study were remarkably similar to those found in the original, despite the fact that gender, age and proficiency level were not controlled and a different nationality of students and a different essay brief was used. This argues that the 2006 framework is fit for purpose, despite the issues discussed in Section 5, and that results of LEA on one nationality may be transferred to other nationalities. There were, however, some issues found during the LEA implementation, namely, difficulties in deciding whether a clause contained an error, whether that error should be considered grammatical or lexical, and if the latter, to which category it should belong. These were expected issues. More specific issues of categorisation when using the framework include: whether a lexical error should be considered connotative or collocational; whether errors should be allocated to just calque or to another category also; whether an error occurred in a fixed expression (or whether that expression is indeed a fixed expression or not) and should be allocated to semantic word selection or whether it should be allocated to another category; lack of clarity over where to allocate single extra or omitted words and also, finally, where to allocate a completely incorrect word choice that was not a near synonym or inappropriate co-hyponym.

8.0 Future Research

Due to the fact that much similarity was found between the type and frequency of lexical errors between Thai and Greek learners of English, it is felt that further research into the errors made by students of other nationalities would be pertinent to establish whether similarity is as widespread as suspected by Hemchua and Schmitt (2006) and the current author. If this is indeed found to be the case, it would strengthen the call for the teaching recommendations in 6.0 above. Unfortunately, there does not appear to be much current research into this area, making the current paper an important contribution to the understanding of lexical acquisition.

Work should also be conducted to create an improved framework to analyse lexical error. Suggestions include:

- Clearer guidelines on what to exclude in terms of grammatical items
- Clearer guidelines on allocation of lexical errors to category when there is more than one possibility
- Separation of cause and type of error
- Further sub-categories that will allow for categorisation of all errors (coherence, cohesion, infelicitous language, missing word, and more precise allocation of sub-types of errors. (i.e. whether some error categories, e.g. a B2.4 PREPOSITION PARTNERS error is an omission, addition or substitution error).

It is hoped that future work in this area by the current author will offer a revised framework, based on the issues and possible solutions identified in Section 5 above. The new framework could incorporate a hierarchy of rules or flow chart, with examples. It could also incorporate analysis of lexicalised grammar errors to make the new framework of more value to the practicing EFL teachers around the world who do not have a background in linguistics. After that, the revised framework could be tested out on further compositions by non-native and native speakers of English in longitudinal studies to see how lexical error categorisation changes over time.

9.0 References

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A Formal Errors	B Semantic Errors
1 Formal misselection 1.1 SUFFIX TYPE 1.2 PREFIX TYPE 1.3 VOWEL-BASED TYPE 1.4 CONSONANT-BASED TYPE 1.5 FALSE FRIENDS	1 Confusion of sense relations 1.1 GENERAL TERM FOR SPECIFIC ONE 1.1 OVERLY SPECIFIC TERM 1.2 INAPPROPRIATE CO-HYPONYMS 1.3 NEAR SYNONYMS
2 Misformations 2.1 BORROWINGS 2.2 COINAGE 2.3 CALQUE	2 Collocation errors 2.1 SEMANTIC WORD SELECTION 2.2 STATISTICALLY WEIGHTED PREFERENCES 2.3 ARBITRARY COMBINATIONS AND IRREVERSIBLE BINOMIALS 2.4 PREPOSITION PARTNERS
3 Distortions	3 CONNOTATION ERRORS

3.1 OMISSIONS 3.2 OVERINCLUSION 3.3 MISSELECTION 3.4 MISORDERING 3.5 BLENDING	
	4 Stylistic errors 4.1 VERBOSITY 4.2 UNDER SPECIFICATION

Table 1. Hemchua and Schmitt's (2006) framework for LEA

Study	Total word count (20 essays)	Mean word count	Standard Deviation	Min	Max	Number of Lexical Errors	Average number of errors per paper	Error per number of running words	Percentage of lexical errors per total word count
2006	6,906	345.3	81.43	218	578	261	13.1	26.46	3.78
2016	5,912	295.6	47.16	178	407	284	14.2	20.81	4.80

Table 2. Word and Error Count

	Formal Errors		Semantic Errors	
	No of Errors	Errors of this type as % of total errors	No of Errors	Errors of this type as % of total errors
2006	96	36.78	165	63.22
2016	82	28.87	202	71.13

Table 3 Summary of frequency in formal and semantic errors

Error Type	Ranking 2016	Ranking 2006	No of Errors (Total=284) 2016	No of Errors (Total=261) 2006	Errors of this type as % of total errors 2016	Errors of this type as % of total errors 2006	No papers containing the error (N=20) 2016	No papers containing the error (N=20) 2006	% of papers containing the error 2016	% of papers containing the error 2006
A1.1 SUFFIX TYPE	5	3	22	24	7.75	9.20	13	12	65	60

A1.2 PREFIX TYPE	10	16	3	1	1.06	0.38	2	1	10	5
A1.3 VOWEL- BASED TYPE	13	17	0	0	0.00	0.00	0	0	0	0
A1.4 CONSON ANT- BASED TYPE	12	8	1	12	0.35	4.6	1	9	5	45
A1.5 FALSE FRIENDS	13	15	0	3	0.00	1.15	0	2	0	10
A2.1 BORROW ING (L1 WORDS)	12	17	1	0	0.35	0.00	1	0	5	0
A2.2 COINAGE (INVENTI NG)	12	17	1	0	0.35	0.00	1	0	5	0
A2.3 CALQUE (TRANSL ATION)	3	4	34	18	11.9 7	6.90	15	12	75	60
A3.1 OMISSIO N	8	7	12	14	4.23	5.36	10	8	50	40
A3.2 OVERINC LUSION	12	12	1	6	0.35	2.30	1	6	5	30
A3.3 MISSELE CTION	12	10	1	10	0.35	3.83	1	7	5	35
A3.4 MISORDE RING	9	13	6	5	2.11	1.92	4	4	20	20
A3.5 BLENDIN G	13	15	0	3	0.00	1.15	0	3	0	15
B1.1 GENERA L TERM FOR SPECIFIC ONE	11	9	2	11	0.70	4.21	2	7	10	35
B1.2 OVERLY SPECIFIC TERM	13	17	0	0	0.00	0	0	0	0	0
B1.3 INAPPRO PRIATE CO- HYPONY M	13	15	0	3	0.00	1.15	0	2	0	10

B1.4 NEAR SYNONY MS	4	1	29	51	10.2 1	19.54	16	16	80	80
B2.1 SEMANTI C WORD SELECTIO N	1	10	89	10	31.3 4	3.83	18	6	90	30
B2.2 STATISTI CALLY WEIGHTE D PREFERE NCES	13	11	0	9	0.00	3.45	0	5	0	25
B2.3 ARBITRA RY COMBINA TIONS	13	6	0	16	0.00	6.13	0	10	0	50
B2.4 PREPOSIT ION PARTNER S	2	2	51	33	17.9 6	12.64	20	15	100	75
B3 CONNOT ATIVE MEANING	17	9	0	11	0	4.21	0	7	0	35
B4.1 VERBOSI TY	7	5	13	17	4.58	6.51	9	10	45	50
B4.2 UNDER SPECIFIC ATION	6	14	18	4	6.34	1.53	9	4	45	20

Table 4 Rank-order frequency of lexical errors

Research Question	Thai 2006	Greek 2016
What lexical errors do Thai/Greek learners make in their English compositions?	Semantics caused more problems for students than the forms of words. The Thai learners made errors in 21 of the 24 categories above. The categories where no errors were made were: A2.1 BORROWING (L1 WORDS), B1.2 OVERLY SPECIFIC TERM, A2.2 COINAGE (INVENTING)	Again, semantics caused more problems for students than the forms of words. The Greek learners made errors in all categories, except, A1.3 VOWEL-BASED TYPE, A1.5 FALSE FRIENDS, A3.5 BLENDING, B1.2 OVERLY SPECIFIC TERM, B1.3 INAPPROPRIATE CO-HYPONYM, B2.2 STATISTICALLY WEIGHTED PREFERENCES, B2.3 ARBITRARY COMBINATIONS, B3 CONNOTATIVE MEANING

Which of the errors are the most frequent?	The five most common types of errors were, in order of frequency (with percentage of total lexical errors): B1.4 NEAR SYNONYMS 20% B2.4 PREPOSITION PARTNERS 13% A1.1 SUFFIX TYPE 9% A2.3 CALQUE (TRANSLATION) 7% B4.1 VERBOSITY 7%	The five most common types of errors were, in order of frequency (with percentage of total lexical errors): B2.1 SEMANTIC WORD SELECTION 31% B2.4 PREPOSITION PARTNERS 18% A2.3 CALQUE (TRANSLATION) 12% B1.4 NEAR SYNONYMS 10% A1.1 SUFFIX TYPE 8% A very similar set of results to the 2006 study.
How many of the errors are attributable to L1 transfer?	The great majority of errors were due to L2 difficulty, not L1 transfer issues. There were 18 A2.3 CALQUE errors, the only interlingual errors to be made, of the three types. This represents almost seven percent of total errors.	Again, the great majority of errors were due to L2 difficulty, not L1 transfer issues. There were 36 (34 A2.3 CALQUE errors, one A2.1 BORROWING error and one A2.2 COINAGE error), accounting for just under 13% of total errors, a very similar set of results to the 2006 study.

Table 5 Answers to Research Questions