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## **Corpus Based Analysis of the TOEFL Course Books: What are the Words We Should Teach Our Students?**

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### Abstract

Knowledge of vocabulary is essential for the learning of a second language, as vocabulary is the building blocks for the language. Mastery of vocabulary is particularly important in the TOEFL tests especially in the reading component as it comprises approximately 25 percent of the entire reading test. Hence, this paper seeks to examine the most frequently used content words as well as its types in the TOEFL course books to aid students in the TOEFL tests. The digitized texts were analyzed using WordSmith 4.0, RANGE Software and The Compleat Lexical Tutor v 6.2 (Cobb, 1997). The findings indicate the types of vocabulary educators and learners should focus on. A list of 100 TOEFL technical content words based on its significant frequency in the passages are created from the target corpus is shown in the appendix. This study is believed to help educators and the TOEFL test-takers to understand the nature of the TOEFL reading tests better especially in terms of the nature of TOEFL vocabulary. From this study, educators should focus more on teaching of the words from the General Service List (GSL) and Academic Word List (AWL) in the TOEFL reading tests as they still comprise most part of the texts in the passages rather than focusing on the unpredictable technical and low frequency words.

**Keywords:** English for the TOEFL, the TOEFL Vocabulary, Corpus of the TOEFL.

## Introduction

Vocabulary learning is considered one of the most essential aspects in language acquisition. It is especially crucial in learning a second or new language. The importance of vocabulary learning raises when it comes to international English proficiency tests like the TOEFL, in which the vocabulary can be challenging because meaning of the words are tested based on context. A great deal of vocabulary teaching methods (be it the implicit way or the explicit), should be brought into awareness in order to expand the knowledge of sitting for TOEFL test. Some would like to experiment indirect teaching, in which teaching is made to happen unplanned through students' reading assignments. Others, on the other hand, would prefer remaining the traditional method – traditional teaching (Sutarsyah, Nation & Kennedy, 1994). The repetition of the words implies their importance and emphasis that should be given during the teaching and learning process through different practical activities. Although reading is one way for the acquisition of the new language, it is not always and in all situations would lead to the acquisition and learning. When, for example, most of the words in a textbook are unknown to a student, it shows that there is not enough recycling of the new words to attract the attention of the students and the teacher to focus on them. In this regard, recycling and repetition would help students with retention and acquisition (Mukundan, 2006; 2009).

Improving and developing the knowledge of the vocabulary of the students in preparation for the English proficiency tests requires the teachers to have enough knowledge and information on the number and types of the vocabulary that are introduced to the students within a course of study. In this regard, analyzing the course books or textbooks used in the preparation process for the major English proficiency tests would be of vital help to the teachers to find out which words need more focus during the teaching time. High frequency words that can be found in a language textbook are the ones that necessitate a great extent of awareness among the learners as well as the teacher. Nation (2001) indicates four ways for teaching the high frequency words involving direct teaching (e.g., teacher explanation), direct learning (e.g., study from word cards), incidental learning (e.g., guessing from context), and planned encounters (e.g., through vocabulary exercises). The high-frequency words also have a wide range. It means that they occur in materials of different kinds with different topics. It is better for the teachers to spend a lot of time on teaching these high frequency words to make sure that the students have learned them (Nation, 1990).

In order to discover the most effective method of teaching and introducing new vocabulary for academic and specific purposes, content analysis of the specific textbook using concordance software would be beneficial (Mukundan, 2006; 2009). According to Nation (1990; 2001), there are four types of vocabulary, namely the high frequency, academic, technical and low frequency words. The priority of vocabulary knowledge in different disciplines has been allocated to West's (1953) General Service List (GSL) which comprises the most regularly-appear 2000 words of English language. These words are also called the high frequency words as they appear in different types of texts across many disciplines. The next priority has to be given to the Coxhead's (2000) Academic Word List (AWL). This suggests that before learning the AWL, knowledge of the GSL is a prerequisite. As stated by Nation (2001), people sometimes refer academic vocabulary as sub-technical vocabulary. This is due to the reason that academic vocabulary does not consist of technical words, but it takes in formal vocabulary instead. On the other hand, Worthington & Nation (1996) posit that academic vocabulary appear widely in majority academic texts despite having lower percentage of regularity as compared to general service vocabulary. There are a total number of 570 word families in academic vocabulary. These word families are made up of specialized vocabulary, which have wide cover of academic texts regardless of their subject area. That is why the highest emphasis is given to the learning of the GSL and AWL before enrolling the specialized courses (ESP) in ESL and EFL situations or even for assessment purposes.

Students are believed to learn about their technical words easily when they are enrolled in specific technical courses or when they are in their specific discourse community (Worthington & Nation, 1996; Coxhead, 2000). Thus, learning of these words really depends on the fields which they learners have enrolled in. For the low frequency words, the teacher can highlight the use of some strategies (e.g., guessing from context clues, using word parts, using vocabulary cards and dictionaries) without spending substantial time for explaining these vocabularies. The low frequency words can be divided into technical and non-technical words (Nation, 1990). These words take up a large quantity but have low frequency in terms of appearance in academic texts. The range for low frequency words are so wide that educators may find it hard to determine the specific essential vocabulary for the courses taught.

Therefore, having known the coverage of different words presented in a textbook would enable the teacher to facilitate better pedagogy in finding out the best way for teaching the old and new items of the language. This is to mean that words with high frequency would show more significance not only for teaching, but also for learning. Nation (1990; 2001) asserts that an ESL/EFL student can maximise his/her understanding of an academic text if he/she can understand 95% of the vocabulary in the text. This can be achieved by mastering the first 2000 words of the General Service List (GSL) introduced by West (1953) and the Academic Word List (AWL) introduced by Coxhead (2000). However, the suggestion was believed to be more applicable to academic texts. If the TOEFL iBT assessment is concerned, the major concern would be the practicality of these lists in English language proficiency assessment. The TOEFL iBT is indeed assessing learners of the widely varied types of vocabulary which sometimes can be too challenging or technical for learners whose English is not their first language. Teaching and learning of vocabulary can be made easier for teachers if a corpus-based analysis is conducted to a textbook used in his/her class, to investigate the types of vocabulary contained.

The use of different corpora in studies conducted on academic vocabulary developed by Coxhead (2000) was also widely found in the world of English Language Teaching (ELT) (see Chen & Ge, 2007; Hyland & Tse, 2007). Most of the studies in the area of ESL/EFL vocabulary based on the corpora have been done on the comparison of different textbooks. However, not many studies have been done in Malaysia to aid learners with a list of frequently used words in the TOEFL examinations. This paper aims to identify and discriminate the varieties of essential content words in the TOEFL coursebooks. The content words ought to be over-learned so that learners are more prepared to further develop their needed vocabulary for the TOEFL test. Besides identifying the various content words of the TOEFL, the essential words ought to be repeated and recycled so that retention is enhanced. If

learners are more aware of the types of vocabulary they need to face in the TOEFL iBT tests, no doubt they will be more prepared.

This study includes specific objectives as follows:

- a) To ascertain the average number of running words that are found in the reading materials of the TOEFL coursebooks, types of words, density ratio, and consistency ratio.
- b) To investigate whether the TOEFL coursebooks can equip students with the necessary vocabulary learning characteristics for the TOEFL test in terms of distribution and repetition of the words.
- c) To determine the number of the TOEFL coursebooks words which present in the General Service List, the Academic Wordlist and the content (more technical or low frequency) words in the course books.

Although there are many types of the TOEFL books in the market, the high frequency list words as well as a list of other types of words created in this study is bounded by three commercially published TOEFL coursebooks. No generalization should be assumed from this study. The words found and categorized are just for reference purpose only. The words analyzed are solely from the reading sections of the TOEFL iBT textbooks as vocabulary questions do comprise at least 30 percent of the reading section. The knowledge of English vocabulary is indeed essential to determine the students' scores in the TOEFL test.

## **The TOEFL iBT Test**

Both students as well as educators somehow do not know what types of vocabulary they should focus on as the types vocabulary tested range from Geology to Engineering, and Business and Economy to Politics, just to name a few. It is suggested that no wordlist should be followed or must be tested in the TOEFL iBT (see Educational Testing Service, 2009). Hence, students anxiety level might just escalate as they do not know what types of vocabulary will be tested in the assessment. The vocabulary items are tested in the context of the passage, although the words might have various meanings. In the TOEFL iBT, the words tested are usually the low-frequency (unusual words), technical or specialized words based on the given topic (see Educational Testing Service, 2009). Knowing the types, whether most of the vocabulary testing words asked are in fact from purely technical words or perhaps some of them can be found in the Academic Word List (Coxhead, 2000) or the General Service List (West, 1953) can actually help students and educators to focus on the essential or needed types of vocabulary. Thus, a test, from the actual Educational Testing Service guide book, 2009 is analysed to find out the words from the types of wordlist adopted in the iBT test. The findings of the sample of the analysis are discussed in the Results and Discussion section.

## **Methodology**

This study compares the TOEFL course books from different publishers. The researcher has randomly selected some of the most popular the TOEFL course books available in Malaysia namely, Barron's, "TOEFL iBT Internet-Based Test", Thomson's, "The Complete Guide to the TOEFL Test and iBT Edition and Educational Testing Service (ETS), "The Official Guide to the New the TOEFL iBT" to create a corpus of high frequency the TOEFL content words. WordSmith 4.0 (Scott, 2004) was used for analyzing the data.

In order to use this software, all the related pages of the TOEFL books must be made into digital readable version. These pages were scanned using the scanner with the optical character recognition (OCR) function and converted into text files format (.txt). Then the text files were loaded into the software for further analysis. Then a program, named RANGE (Heatley, Nation & Coxhead, 2002) was used to perform further analysis. This RANGE software is able to help users to determine and discriminate the General Service List (GSL) words, the Academic Word List (AWL) words, technical and low frequency words which are used in various fields in the books. Only for the purposes of this study, the non-GSL and non-

AWL are regarded as TOEFL technical content words. This is due to the fact that the frequency of these words appearing in academic reading passages is rather insignificant but not in TOEFL passages which are believed to have more of the low-frequency and technical vocabulary. Although this study analyzes 3 different books, they are actually popular coursebooks for students, especially in the researchers' institution. Words appearing the list of the General Service List words, the Academic Word List Words and content words of the TOEFL iBT tests will be segregated and the percentage will be reported in the following section. Apart from this, in order to randomly segregate the types of words (based on the word lists) in the reading passages of the official TOEFL iBT book, The Compleat Lexical Tutor v 6.2, developed by Thomas Michael Cobb (1997) was used. This software can be obtained in the following website <http://www.lex tutor.ca>. This software has been used by many researchers and is cited regularly in research publications and presentations at major conferences as it has the capabilities to perform concordance and words discrimination function effectively (see Cobb, 2007; 2009). The result is believed to be able to indicate to the students and teachers the types of essential TOEFL vocabulary, i.e. whether students should just study any random vocabulary or they can actually follow a word list based on the percentage of types of vocabulary (as per the word lists) shown in this research. A total of three types of software, namely, WordSmith 4.0 (Scott, 2004), RANGE (Heatley, Nation & Coxhead, 2002) and The Compleat Lexical Tutor v6.2 (Cobb, 1997) were used by the researchers to perform the text analysis in this case study of the created TOEFL iBT Reading passages Corpus. The word strength of the corpus is not a main concern in this study as even limited or small corpus can actually be significant to any corpus-based studies (Mukundan, 2009) and the focus of this research was only on the reading comprehension passages.

## Results and Discussion

Table 1 shows the number of running words or tokens in the reading section of the three the TOEFL coursebooks with a corpus of 66,733 words strength. Also, the data about the number of types of words used in the three coursebooks are tabulated in Table 1. WordSmith 4.0 (Scott, 2004) was used to analyze these two aspects of the coursebooks. Density ratio as well as consistency ratio can be calculated using the simple formula indicated in the table.

**Table 1:** General Characteristics of Three the TOEFL Coursebooks in Reading Component

Publisher	Total Running Words (Tokens)	Types of Words	Density Ratio (Types/Tokens)	Consistency Ratio (Tokens/Types)
Barron's	26,865	5,043	18.8	5.33
Thomson	31,468	6,028	19.2	5.22
ETS	8,400	2,424	28.9	3.47

From Table 1, the book published by Educational Testing Service (ETS), the official TOEFL iBT course book has the highest density ratio which indicates that the passages are cramped with large tokens of words with many introductions of new words. The consistency ratio of the same book reads 3.47, meaning that after every 3 words; a new word is introduced in the passage. This finding signifies that the passages in the TOEFL iBT are anything but easy as the rate of introduction to new words is rather frequent as compared with the other two books. In addition, this book is the only book which is endorsed by the Educational Testing Service (ETS) as it is the official guide to the TOEFL iBT.

According to experts, learners need 5 to 16 'meetings' with a new language item in various contexts before they can achieve retention and successful applications of the words

(Koprowski, 2006). If these coursebooks are meant to help students to score in the TOEFL iBT tests, the aspect of repetition of words should not be neglected. Coursebooks should provide learners with more opportunities to learn new frequently encountered words while using them (Mukundan 2006, 2009; Tomlinson, 1998).

**Table 2:** Repetition Characteristics of Three the TOEFL Course books in Reading Component

Publisher	Total Types of Words Repeated At Least 5 Times	Percentage of Types of Words Repeated At Least 5 Times (%)
Barron's	882	17.5
Thomson	1024	17.0
ETS	267	11.0

The coursebook published by ETS is definitely the 'evaluation' book for students to access their level of competency and proficiency in the subject matter rather than to assist students in preparation for the TOEFL test. The percentage of the types of words repeated at least 5 times in the ETS book is the lowest of all. From the result above, it is obvious that the analyzed books are not the materials to enhance students understanding of the language and it does not promote vocabulary acquisition as the repetition of words found in the books is rather discouraging. Nonetheless, the books function as guide for students to get familiarized with the format, rather than pedagogical tools. Vocabulary type and coverage in an academic text comprises the high-frequency words, academic vocabulary, technical vocabulary and low-frequency vocabulary (Nation, 1990; 2001). The General Service List (GSL) (West, 1953) contains the most widely or frequently used 2,000 word families in English language (Nation, 1990, 2001; Coxhead, 2000). The following results are the product of analysis using RANGE (Heatley, Nation & Coxhead, 2002), downloaded from [http://www.vuw.ac.nz/lals/staff/paul\\_nation/nation.aspx](http://www.vuw.ac.nz/lals/staff/paul_nation/nation.aspx). The number of words in the books similar to those of in the GSL is tabulated in Table 3. The number of words in the books similar to those of in the AWL is stipulated in Table 4.

**Table 3:** Words from the Books Found in the GSL 2000 Headwords/Word Families

Publisher	Tokens Found in the GSL	Total GSL Headwords/Word Families (2000)	Percentage of Texts Coverage in the Book (%)
Barron's	20972	1254	78.1
Thomson	24328	1437	79.1
ETS	6510	875	78.4

The GSL words found are important as they make up to 80% of the running texts (Nation, 2001). These words are high frequency words that should be mastered by learners as they enable students to comprehend up to 80% of the texts but all the books barely reach the percentage of 80%. It shows that these books are actually more challenging as compared to normal general English texts.

**Table 4:** Words from the Books Found in the AWL Headwords/Word Families

Publisher	Tokens Found in the AWL	Total AWL Headwords/Word Families (570)	Percentage of Texts Coverage in the Book (%)
Barron's	2177	405	8.10
Thomson	1538	344	5.00
ETS	585	235	7.05

The Academic Word List, developed by Averil Coxhead in 1998 is the best academic list which covers various fields' academic texts (Nation, 2001). These words make up about 9% of the tokens in the text (Nation, 2001). However, from Table 4, only Barron's complies nearest to the stated figure of 9%. This indicates that the TOEFL course books actually contain more technical and low frequency words in English. Texts which are closely related to a specific field or subject area of the text is considered as technical words and they typically cover about 5 % of the tokens in the texts (Nation, 2001). Technical words are not as common as the AWL and GSL as they are more related to a specific field. However, the TOEFL course books actually have more technical words than conventional academic texts. Like technical words, low-frequency words also comprise of 5% of the running texts and they include technical words for other subject area, proper nouns and words learners or educators scarcely encounter (Nation, 2001). For this study, the technical words and the low-frequency words are combined and named the TOEFL technical vocabulary. These words are believed to hamper students from excelling in the TOEFL.

**Table 5:** Number of Words from the Books Categorized as TOEFL Technical Vocabulary

Publisher	Tokens Not Found in Any List	Total Types	Percentage of Texts Coverage in the Book (%)
Barron's	3613	1746	13.80
Thomson	4884	2615	15.90
ETS	1205	707	14.55

These words can be considered technical vocabulary if the proper nouns or names are excluded (Kwary, 2006). After removing the words from the GSL and AWL lists, the TOEFL technical vocabulary was segregated and analysed once again using WordSmith 4.0 (Scott, 2004). Based on the significant frequency count of those words appearing in the passages and corpus, a list of 100 essential TOEFL reading content word list was created. The list is attached in Appendix A.

To find out what types of words asked in vocabulary questions in the TOEFL iBT are, a simple analysis was carried out. The Compleat Lexical Tutor v 6.2 (Cobb, 1997) was used to determine whether the types of words of frequently asked vocabulary in the TOEFL iBT belong to the GSL, AWL or technical vocabulary. The sample used was a practice test from ETS, The Official Guide to the TOEFL iBT Test. The result is stated in Table 6. Out of 10

words from the three passages tested, a total of 5 technical words, 3 Academic Word List and 2 General Service List Types of Words were obtained.

**Table 6:** Types of Vocabulary Words Asked in the Test

Passage	Vocabulary Words Meaning Asked	Types/Word List
1	<b>immeasurably</b>	Technical/Low Frequency
	<b>inclination</b>	AWL
	<b>concept</b>	AWL
2	<b>despondent</b>	Technical/Low Frequency
	<b>concur</b>	Technical/Low Frequency
	<b>rate</b>	GSL
	<b>relevant</b>	AWL
3	<b>relatively</b>	GSL
	<b>relics</b>	Technical/Low Frequency
	<b>seeps</b>	Technical/Low Frequency

From the table, it shows that the vocabulary questions asked in the tests (referring to the passages) are unpredictable or should be regarded as 50 percent GSL/AWL in nature and 50 percent Technical/Low Frequency in nature. Thus, in order for learners to understand the passages and able to guess the meaning in context better, it is recommended that learners master or learn the words from the GSL and AWL as they show significant coverage in the reading passages in the TOEFL iBT Reading. It is better for learners to focus on words from the word lists which are higher in possibility to appear than words which are not certain to appear, especially when the stake is high in important tests such as the TOEFL iBT. In addition, the range for the technical words varies across fields and the context of low frequency words are too large to be identified (Nation, 2001).

## Conclusion

The TOEFL iBT is the latest test, conducted and developed by Educational Testing Service (ETS) to replace the TOEFL computer-based test (CBT) and the paper-and-pencil (PBT) to evaluate students' proficiency for placements in the universities. Despite preparing students for the test, the TOEFL course books do educate students about the skills required in learning the language. Students may face with difficulties as the presentation of the types of vocabulary in the texts of the test may be too challenging for them. Also, students as well as educators do not know the types of vocabulary they ought to focus on. Hence, with this study, educators and students now should focus on the GSL and AWL. Learners should make sure that they have mastered or at least come to realization of the words in the GSL and AWL as the words help them to understand the passage better. Also, the knowledge of the AWL plays a large role in students' understanding as well as answering of the vocabulary question in the TOEFL iBT. The AWL helps students to comprehend some of the common terms used across many fields that it helps students to guess the meaning in context more effectively. Extensive reading of materials across various fields is strongly recommended. Website like [newyorktimes.com](http://www.nytimes.com) offers a series of reading materials ranging from the Science continuum to



the Arts continuum. If students are able to learn and comprehend technical vocabulary in various fields, it would be an added advantage in facing the TOEFL test. In conclusion, teaching and learning of the TOEFL to prepare students for the test indeed needs the exposure of all the word lists mentioned in this study as the coverage of such words do have significance. Thus focusing on the two well-established word lists of the AWL and GSL can actually provide good pedagogy impact for learners. When teachers are 'word lists' guided, students are well vocabulary guided as well.

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