# Loading and Distribution of the 2000 High Frequency Words in Malaysian English Language Textbooks for Form 1 to Form 5

## Jayakaran Mukundan<sup>1\*</sup> and Anealka Aziz<sup>2</sup>

<sup>1</sup>Faculty of Educational Studies, Universiti Putra Malaysia 43400 UPM, Serdang, Selangor, Malaysia <sup>2</sup>Academy of Language Studies, MARA University of Technology (UiTM), Shah Alam, Selangor, Malaysia \*E-mail: jaya@educ.upm.edu.my

#### **ABSTRACT**

Textbooks are important tools used by teachers in teaching. Today, thanks to corpus-based research and the use of concordance software to analyze language, entire textbooks can be scanned to form what we call a corpus of the language of English language textbooks. Concordance software is used to perform automated and semi-automated analyses in terms of loading and distribution of words in textbooks. In this study, the researchers studied patterns of loading, distribution and repetition, and investigated cases of words missing in books, all based on the 2000 high frequency word list. Results of the study reveal that while most of the 2000 high frequency words (93.1%) are used in the secondary school textbooks, repetition and recycling are not efficient. The research also revealed that there are 139 (6.9%) words in the 2000 high frequency word list which are not used at all in Malaysian English language textbooks. The results also caution material developers that high coverage of the 2000 high frequency words does not ensure effective learning, especially when the words are poorly distributed within and across textbooks.

Keywords: Concordance-based evaluation, textbooks, 2000 high frequency word list, recycling, repetition

## INTRODUCTION

There are now many questions asked about textbooks for the teaching of languages. While research shows that the 2000 high frequency words in the English language cover 87% of running words in a text, material developers are wondering how textbooks are crowded with words (the Form 1 book in this study used 4730 different words!) while missing out on many words from the 2000 high frequency word list. On the other hand, while words from the 2000 high frequency list do appear, they are usually not repeated and this is against the perspective

of language learning as Thornbury (2002) claims that students remember words which are repeated seven times over spaced intervals.

In previous research using corpus-based procedures, the researchers worked on dead textbooks from the previous cycle and the forensic study (Mukundan and Aziz, 2008) revealed for the first time weaknesses in the development of textbooks, chief amongst which were in the area of lexical loading and distribution patterns. In this present study, the researchers attempted to analyze the load and distribution efficiency of the 2000 high frequency words in the textbooks.

Received: 13 February 2009 Accepted: 1 October 2009 \*Corresponding Author Second language learners need to know the 3,000 high frequency words of the language (Waring and Nation, 1997), as knowing these words enables them to begin reading authentic texts (Nation, 1990; Schmitt, Schmitt and Clapham, 2001). However, knowledge of the first 2000 most frequent words in the language is sufficient enough to allow learners to access to approximately 87% of any ordinary text (Nation, 1990).

High frequency words are generally the most familiar words and they make up the majority of tokens in any discourse (Schmitt, 2000). Higher frequency words tend to be short and learners are likely to meet these words more frequently (Thornbury, 2002). It is important for language learners to know these words in order to function effectively in English. Once the high frequency words are acquired, learners can then independently learn the less frequent words through a combination of intentional and incidental learning (Schmitt, 2000). Using these words, learners are also able to "make accurate guesses about meanings of the remaining less frequent words which are likely to be unknown" (Schmitt, 2000).

The most frequent 2,000 headwords from West's General Service List (GSL) seem to be the most cited initial goal for second language learners as it accounts for at least 80%-85% of the words on any page of any book on any subject matter (Waring and Nation, 1997; Nation and Newton, 1997; Schmitt, 2000). The GSL is "a set of 2,000 words selected to be the greatest general service to learners of English" (http:// jbauman.com). However, the list does not contain the most common 2000 words although during the selection, frequency count was one of the factors considered (Nation, 2004). Each of these words is headword representing a word family, which was loosely defined in West (http://jbauman.com). This list has served as the basis for graded readers and other material for many years (Nation, 1993).

## OBJECTIVES OF THE STUDY

The main aim of the study was to investigate patterns of loading, distribution, and repetition

of the 2000 high frequency words in Malaysian Secondary School English Language Textbooks (Forms 1-5). The study also attempted to identify words in the 2000 high frequency list which are not used in the entire English Language textbooks.

## RESEARCH QUESTIONS

The questions this study seeks to answer are as follows:

- What are the general characteristics of vocabulary loading in Malaysian Secondary School English Language textbooks (Forms 1-5)?
- To what extent are words in the 2000 high frequency list covered in Malaysian Secondary School English Language textbooks (Forms 1-5)?
- How often are words in the 2000 high frequency list being recycled in Malaysian Secondary School English Language textbooks (Forms 1-5)?
- Which words in the 2000 high frequency list are not being used in the entire Malaysian Secondary School English Language textbooks (Forms 1-5)?
- How often are randomly selected words from the 2000 high frequency list being distributed within and across the entire Malaysian Secondary School English Language textbooks (Forms 1-5)?

## SIGNIFICANCE OF THE STUDY

This study will benefit textbook developers in the following ways:

- Material developers will develop a greater awareness of vocabulary load and distribution patterns and have greater control of words and how they should be presented using concordance software. This will benefit the writing of new textbooks in the future.
- Materials developers will know that books written in an ad hoc manner will not even

take into consideration some important aspects such as the existence of the 2000 high frequency word list. Future textbook developers will also have a greater awareness with regards to this.

#### METHODOLOGY

The study employed a purposive sampling method. The English language textbooks for Form 1 to Form 5 from the Klang Valley schools (Central Zone) were chosen for the study. These books are from the newest cycle of textbooks which were introduced in 2003, and are still used at the present time. All pages in the textbooks were scanned and saved as image files. These image files were converted to text files to enable WordSmith 4.0 to analyze the vocabulary used in these textbooks. Two WordSmith tools, WordList and Concord tools, were mainly used in this study. The study used West's GSL as a reference for the 2000 most frequent words in analyzing the patterns of loading, distribution, and repetition of these words in Malaysian Secondary School English Language Textbooks (Forms 1-5).

#### RESULTS AND DISCUSSION

The presentation and discussion in this section are based on the research questions stated earlier. The first part deals with the general statistics of vocabulary loading in Malaysian Secondary School English language textbooks for Forms 1-5. The second part deals with the coverage of the 2000 high frequency words in Malaysian Secondary School English Language textbooks (Forms 1-5). The third part deals with the repetition of the 2000 high frequency words in Malaysian Secondary School English Language textbooks (Forms 1-5), while the fourth part deals with words in the 2000 high frequency list which are not used in the entire Malaysian Secondary School English Language textbooks (Forms 1-5). The final part deals with the distribution of 10 randomly selected words from the 2000 high frequency list within and across the entire Malaysian Secondary School English Language textbooks (Forms 1-5).

Part 1: General Characteristics of Vocabulary Loading in Malaysian Secondary School English Language Textbooks (Forms 1-5)

Table 1 shows the total number of running words (tokens) and the total number of different words (types) found in the textbooks. There is a gradual increase in the total number of tokens from the Form 1 textbook to Form 5 textbook. There is also a gradual increase in the total number of types found in the Forms 1-3 textbooks. However, a notable increase is seen in the total number of types in the Form 4 textbook compared to the Form 3 textbook. The Standardized Type/Token Ratio (STTR) was used to measure the density level of textbooks. Textbooks with higher percentage of STTR indicate that the textbooks have more types being introduced for every 1000 tokens in the textbooks. The results presented in Table 1 show that Form 5 textbook has the highest density level compared to the other four English language textbooks. At this level, students are assumed to be ready to handle a larger number of words, therefore more types are introduced. However, the Form 1 textbook does not have the lowest density level. In fact, its density level is higher than the textbooks for Forms 2 and 3. The finding also shows that the Form 1 textbook introduces more types than the Form 2 and Form 3 textbooks, making it relatively more difficult than the other two textbooks in terms of the vocabulary load in the textbooks. Form 1 students have to handle more vocabulary load than the Form 2 and Form 3 students, which should not be the case. Apparently, the Form 2 textbook has the lowest density level, making it the least difficult textbook in terms of the vocabulary load in the textbook.

Part 2: The Coverage of the 2000 High Frequency Words in Malaysian Secondary School English Language Textbooks (Forms 1-5)

A passive knowledge of these words provides familiarity of nearly nine out of ten words in most written texts (Thornbury, 2002), while Nation (1990) claims that the 2000 high frequency

TABLE 1
The total number of tokens and types in Malaysian Secondary School English Language
Textbooks (Forms 1-5)

	Form 1	Form 2	Form 3	Form 4	Form 5	All Textbooks
Tokens in the Textbooks	45,105	49,497	60,038	75,154	81,420	322,787
Types in the Textbooks	4,730	4,738	5,309	7,788	7,994	14,732
Standardized Type/Token Ratio (STTR)	40.11	39.67	39.94	42.58	42.21	41.38

words cover 87% of the running words in a text. Results of the analysis show that 27.0% of the types in Form 1 textbook (1278 out of 4730 types) appear in the 2000 high frequency list. This covers 63.9% of the words in the list. Meanwhile, 26.7% of the types in Form 2 textbook (1264 out of 4738 types) appear in the 2000 high frequency list. This covers 63.2% of the words in the list. 25.8% of the types in Form 3 textbook (1369 out of 5308 types) appear in the 2000 high frequency list. It covers 68.5% of the words in the list. 19.9% of the types in Form 4 textbook (1549 out of 7788 types) appears in the 2000 high frequency list, and this covers 77.5% of the words in the list. 19.4% of the types in Form 5 textbook (1553 out of 7994 types) appear in the 2000 high frequency list. It covers 77.7% of the words in the list. 12.6% of the types in the entire secondary school textbook (1861 out of 14 732 types) appear in the 2000 high frequency list. It covers 93.1% of the words in the list. Having been exposed to 93.1% of the 2000 high

frequency words at the end of Form 5, students are assumed to be able to comprehend 81.0% of texts on any general topics.

Table 2 shows the number and percentages of the 2000 high frequency words in Malaysian Secondary School English Language textbooks (Forms 1-5). It can be concluded that the textbooks have prepared the students with the knowledge of all the 2000 high frequency words in the high frequency list as this would show awareness on the part of material developers that learners who leave school after five years of secondary education have to be exposed to the entire list of 2000 high frequency words.

Part 3: Repetition of the 2000 High-frequency Words in Malaysian Secondary School English Language Textbooks (Forms 1-5)

Thornbury (2002) claims that students remember words which are repeated at least seven times over a spaced interval. The results show that

TABLE 2
The number and percentage of the 2000 high frequency words in Malaysian Secondary
School English Language Textbooks (Forms 1-5)

	Form 1	Form 2	Form 3	Form 4	Form 5	All Textbooks
Total number of types in the textbooks	4730	4738	5309	7788	7994	14732
Number of words found in the 2000 high frequency word list	1278	1264	1369	1549	1553	1861
Percentage of words appearing in the 2000 high frequency word list	63.9%	63.2%	68.5%	77.5%	77.7%	93.1%
Percentage of types in textbook appearing in the 2000 high frequency words	27.0%	26.7%	25.8%	19.9%	19.4%	12.6%

71.9% of the words in the list (1438) are repeated at least seven times in the entire textbooks, 21.2% of the words (423 words) are recycled less than seven times, while 6.9% of the words (139 words) are not found in any of the textbooks. Table 3 displays the number of words being repeated in the entire set of textbooks.

These results also show that although the coverage of the words in the high frequency list is 93.1% (1861 out of 2000 words), the textbooks only recycle 71.9% of the words in the list effectively. Table 4 displays the list of words repeated less than seven times in the entire set of textbooks.

Part 4: Words in the 2000 High Frequency List Which Are Not Used in the Entire Malaysian Secondary School English Language Textbooks (Forms 1-5)

About 6.9% of the words in the high frequency list (139 words) are not used in the textbooks. Table 5 presents the words in the 2000 high frequency list which are not used in any of the textbooks.

However, derivatives and inflections of some of the words in Table 4 are found in the textbooks. Although these words are not found in the textbooks, teachers may have taught these words in order to teach the students the derivative and inflectional forms of the words. Table 6 shows words (their derivatives and inflectional forms included) which are not used in any of the textbooks. There are 45 (2.3%) words (including their derivatives and inflections), in the 2000 high frequency list, which are not used in the entire set of Malaysian Secondary School English Textbooks (Forms 1-5).

Part 5: Distribution of 10 Randomly Selected Words from the 2000 High Frequency List within and across the Entire Malaysian Secondary School English Language Textbooks (Forms 1-5)

Ten words were randomly selected using random number generator at GraphPad Software (www. graphpad.com/quickcalcs/randomN1.cfm). These words are used as examples to illustrate the distribution patterns of words within and across textbooks and not as examples of problematic words for students to learn. The words and their ranking in the 2000 high frequency list are presented in Table 7. The word "much" is the 94th highest frequency word in the list, while "yellow" is ranked 1277th rank in the 2000 high frequency list. The Concord Tool of WordSmith 4.0 was used to plot the distribution patterns of the selected words.

Table 8 shows how frequent the words are being used in the textbooks. As a whole, students encounter these words more than seven times within the five years of schooling. There are, however, some problems with regards to the repetition of these words across the entire period of secondary school education. For instance, the word 'art' which is ranked 277th in the 2000 high frequency list, is rarely used in the Forms 1, 2, 3, and 5 textbooks. The word is recycled well only in the Form 4 textbook. The word 'yellow' is ranked 1277th in the list. This word has not been recycled well in the entire set of textbooks. In fact, it is not being used at all in the Form 3 textbook. These results show that although more than 90% of the 2000 high frequency words are covered in the textbooks, not all the words are recycled effectively within the textbooks to ensure learning.

TABLE 3

The number of words that are repeated fewer than seven times in the entire set of Malaysian Secondary School English Language Textbooks

No. of Occurrence in Form 1-5 Textbooks (times)	No. of Words	Percentage
7 times and more	1438 words	71.9%
Less than 7 times	423words	21.2%
Zero	139 words	6.9%

# Jayakaran Mukundan and Anealka Aziz

TABLE 4
Words that are repeated fewer than seven times in the entire set of Malaysian Secondary
School English Language Textbooks

abroad	cheer	eager	gray	miserable	Prove	sincere	tend
absolute	chief	ease	grind	misery	pump	skirt	tent
actor	Christmas	eastern	guard	modest	punish	slavery	thorough
admission	church	efficiency	guilt	motion	pupil	slide	thread
admit	circular	elder	hang	multiply	pure	slight	threaten
advance	clay	elect	haste	murder	push	slip	thunder
advertise	clever	election	heaven	musician	qualify	slope	ticket
affair	coal	enemy	hesitate	mystery	quarrel	snow	tie
agent	coat	entertain	holy	nail	quarter	soap	tight
airplane	commerce	envelope	hunt	neglect	queen	solemn	toe
alike	compete	envy	ideal	nest	railroad	somehow	ton
allowance	completion	equal	imaginary	noble	recognition	soul	tool
altogether	confuse	essence	inch	northern	reflection	soup	toward
amuse	confusion	everybody	inquire	nowhere	refresh	spare	towel
annoy	connection	examine	insect	operate	relation	spell	trade
apart	conscience	exception	instant	operator	relieve	spin	translate
appoint	convenience	excessive	instrument	oppose	remark	spirit	translation
approve	corn	excite	insurance	opposition	remedy	spit	trap
arise	cottage	excuse	intention	organ	representative	spite	treasury
arrest	cow	expense	interference	ought	reproduce	stair	tremble
arrow	crack	explosion	interrupt	package	reputation	stamp	trial
attempt	crash	extend	jaw	pad	reserve	steady	tribe
attraction	creep	extension	joint	pan	resign	steam	trick
autumn	criminal	extensive	jump	parent	resist	steep	tune
avenue	crop	extraordinary	justice	passenger	retire	steer	twist
awake	crown	fade	knee	pattern	reward	stem	union
axe	curtain	faint	knock	pause	roar	stir	unite
bargain	curve	faith	ladder	permanent	roast	stock	universe
bathe	custom	fan	lamp	pet	rob	stomach	urge
beam	customary	fancy	lean	pink	root	stove	urgent
beard	damp	fasten	lessen	pipe	royal	straw	veil
bedroom	dare	fault	lid	pity	rub	strengthen	vessel
beg	debt	feather	lip	plain	ruin	stretch	violence
bend	declare	fence	load	pleasure	rust	strike	virtue
bind	defeat	fix	loan	polish	sacred	stroke	voyage
bite	delay	flame	lock	political	sake	stuff	wage
blame	delight	flesh	loose	politician	salary	stupid	waiter
bleed	deliver	float	lord	politics	salesman	substance	wander
boast	dependence	fold	lump	possess	scarce	suit	warmth
border	descend	fool	male	postpone	scenery	summer	wax
branch	deserve	forgive	mankind	pound	scratch	supper	weapon
brass	destructive	fork	manufacture	powder	screw	surround	west
brick	dig	forth	marriage	praise	seed	suspect	whip
broad	dip	fortune	mass	pray	seize	swallow	whistle
bunch	disappoint	frequency	mechanic	preference	seldom	sweat	width
bundle	distant	friendship	mechanism	prejudice	servant	sweep	wine
businessman	distinguish	frighten	melt	prevention	sew	swell	wing
cape	disturb	gay .	merchant	print	shell	swing	winter
caution	dive	gentleman	mercy	probable	shield	sympathetic	wisdom
cautious	dot	govern	mere	profession	shine	sympathy	wreck
cave	dozen	hay	mild	program	shoot	tax	yard
century	dull	heap	mile	prompt	shower	taxi	yield
charm	duty	grave	mineral	proposal	shut	telegraph	

TABLE 5
Words in the 2000 high frequency list that are not used in the entire set of Malaysian Secondary School English Textbooks (Forms 1-5)

accord	confess	flavor	lodge	scatter
accuse	confession	fond	membership	scrape
accustom	critic	forbid	moderate	separation
adopt	crush	freeze	neighbor	shave
angle	cultivate	funeral	neighborhood	simplicity
anyhow	curl	furnish	nut	soften
arch	curse	garage	objection	stain
astonish	decisive	governor	omit	straighten
awkward	decrease	grease	owe	suck
backward	defendant	guest	ownership	suspicion
barrel	defense	harbor	particle	swear
basis	depth	hatred	peculiar	tempt
behavior	desire	heal	plaster	tender
blade	devil	hire	plow	theater
boundary	dine	honor	preach	theatrical
calculation	disapprove	idle	propose	thumb
carriage	dismiss	imitation	qualification	tire
center	dollar	immense	rabbit	tray
certainty	drum	inquiry	rail	tube
civilize	earnest	insult	reduction	victory
classification	educator	insure	religion	weaken
classify	elsewhere	interfere	republic	weave
clothe	empire	joke	ribbon	widow
collar	employee	kick	rival	wipe
collector	explosive	kiss	rug	witness
colony	favor	kneel	saddle	worship
color	favorite	latter	satisfactory	wrist
complicate	fellowship	liberty	satisfy	

TABLE 6
Words (their derivatives and inflectional forms included) which are not used in the entire Malaysian Secondary School English Textbooks (Forms 1-5)

accustom	colony	governor	ownership	scrape
angle	curse	grease	peculiar	simplicity
anyhow	decisive	idle	plaster	swear
astonish	devil	immense	plow	tempt
awkward	earnest	latter	preach	theatrical
barrel	elsewhere	liberty	republic	tray
basis	empire	membership nut	rival	tube
civilize	fellowship	objection	saddle	widow
collar	garage	owe	scatter	wrist

TABLE 7
Ten randomly selected words and their ranking within the 2000 high frequency list

No.	Words	Ranking in the 2000 High Frequency List (1-2000)
1	much	94
2	country	217
3	study	231
4	art	277
5	quite	405
6	black	586
7	science	653
8	discussion	832
9	article	976
10	yellow	1277

TABLE 8
Distribution of words within Malaysian Secondary School English Textbooks (Forms 1-5)

	Words	Form 1	Form 2	Form 3	Form 4	Form 5	Total
1	much	30	33	48	38	38	187
2	country	12	24	7	37	18	98
3	study	16	13	23	11	29	92
4	art	4	3	4	12	5	28
5	quite	7	9	13	6	4	39
6	black	7	7	10	6	7	37
7	science	33	3	9	22	12	79
8	discussion	4	X	10	2	10	26
9	article	19	7	37	15	30	108
10	yellow	2	2	X	3	3	10

Figs. 1-10 show the dispersion plots of the selected words within the entire set of textbooks. Words like *much*, *study*, *country*, and *article* are distributed well within and across the textbooks. Nevertheless, words like *quite*, *black*, *science*, and *discussion* are distributed well only in certain textbooks. Meanwhile, words like *art* and *yellow* are the most poorly distributed words within and across the textbooks.

#### CONCLUSION

Generally, the textbooks have large loads of vocabulary for each Form based on the results of the analysis. The results also conclude that the textbooks have not adequately prepared

the students with the knowledge of the 2000 high frequency words effectively, as only 71.9% (1438) of the high frequency words are effectively introduced and repeated, despite the high coverage of 93.1% (1861 out of 2000 words). Meanwhile, about 6.9% of the words in the high frequency list (139 words) are not at all used in the textbooks. However, derivatives and inflections of some of these words are found in the textbooks. 2.3% of the 2000 high frequency words (46 words that take into account their derivatives and inflections) are never used at all in the entire set of Malaysian Secondary School English Textbooks (Forms 1-5). In terms of the distribution patterns of 10 randomly selected words from the 2000 high-frequency list, the

C	. Co	ncord								
F	File Edit View Compute Settings Windows Help									
		File Words	Hits	per 1,000	Dispersion	Plot				
	1	form 1 all.txt 44,762	30	0.67	0.682					
	2	form 2 all.txt 48,482	33	0.68	0.795					
	3	form 3 all.txt 57,796	48	0.83	0.787					
	4	form 4 all.txt 72,936	38	0.52	0.861					
	5	form 5 all.txt 72,941	38	0.52	0.854					

Fig. 1: The use of 'MUCH' in Malaysian Secondary School English Language Textbooks for Forms 1-5

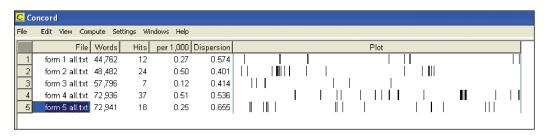


Fig. 2: The use of 'COUNTRY' in Malaysian Secondary School English Language Textbooks for Forms 1-5

C C	oncord										
File Edit View Compute Settings Windows Help											
	File Words	Hits per	1,000	Dispersion				Plot			
1	form 1 all.txt 44,762	16	0.36	0.681							
2	form 2 all.txt 48,482	13	0.27	0.553							
3	form 3 all.txt 57,796	23	0.40	0.690	l						
4	form 4 all.txt 72,936	11	0.15	0.708							
5	form 5 all.txt 72,941	29	0.40	0.778		Ш					

Fig. 3: The use of 'STUDY' in Malaysian Secondary School English Language Textbooks for Forms 1-5

C Co	ncord												
File Edit View Compute Settings Windows Help													
	File Words	Hits	per 1,000	Dispersion				Plot					
1	form 1 all.txt 44,762	4	0.09	0.300									
2	form 2 all.txt 48,482	3	0.06	0.250							_		
3	form 3 all.txt 57,796	4	0.07	0.596									
4	form 4 all.txt 72,936	12	0.16	0.413								.	
5	form 5 all.txt 72,941	5	0.07	0.446									

Fig. 4: The use of 'ART' in Malaysian Secondary School English Language Textbooks for Forms 1-5

## Jayakaran Mukundan and Anealka Aziz

C Co	oncord								
File Edit View Compute Settings Windows Help									
	File Words	Hits	per 1,000	Dispersion	Plot				
1	form 1 all.txt 44,762	7	0.16	0.462					
2	form 2 all.txt 48,482	9	0.19	0.622					
3	form 3 all.txt 57,796	13	0.22	0.650					
4	form 4 all.txt 72,936	6	0.08	0.553					
5	form 5 all.txt 72,941	4	0.05	0.596		1			

Fig. 5: The use of 'QUITE' in Malaysian Secondary School English Language Textbooks for Forms 1-5

C C	oncord									
File	Edit View Compute Se	ttings Wind	lows Help							
	File Words	Hits	per 1,000	Dispersion			Plot			
1	form 1 all.txt 44,762	7	0.16	0.640						
2	form 2 all.txt 48,482	7	0.14	0.723						
3	form 3 all.txt 57,796	10	0.17	0.495						
4	form 4 all.txt 72,936	6	0.08	0.300						
5	form 5 all.txt 72,941	7	0.10	0.414						

Fig. 6: The use of 'BLACK' in Malaysian Secondary School English Language Textbooks for Forms 1-5

C Co	ncord									
File	Edit View Compute Setti	ngs Windo	ws Help							
	File Words	Hits pe	r 1,000	Dispersion			Plot			
1	form 1 all.txt 44,762	33	0.74	0.499						
2	form 2 all.txt 48,482	3	0.06	0.478						
3	form 3 all.txt 57,796	9	0.16	0.448						
4	form 4 all.txt 72,936	22	0.30	0.665						
5	form 5 all.txt 72,941	12	0.16	0.767						

Fig. 7: The use of 'SCIENCE' in Malaysian Secondary School English Language Textbooks for Forms 1-5

C Co	oncord										
File	Edit View Com	pute Settin	igs Win	dows Help							
	File	Words	Hits	per 1,000 E	)ispersion			Plot			
1	form 1 all.txt	44,762	4	0.09	0.429						
2	form 3 all.txt	57,796	10	0.17	0.470						
3	form 4 all.txt	72,936	2	0.03	0.300						
4	form 5 all.txt	72,941	10	0.14	0.423	1			111		

Fig. 8: The use of 'DISCUSSION' in Malaysian Secondary School English Language Textbooks for Forms 1-5

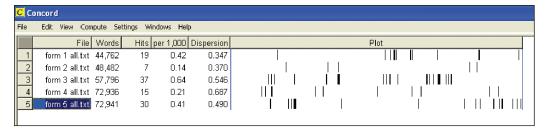


Fig. 9: The use of 'ARTICLE' in Malaysian Secondary School English Language Textbooks for Forms 1-5

C Co	oncord					
File	Edit View Comp	oute Setting	gs Windo	ows Help		
	File	Words	Hits	per 1,000 l	Dispersion	Plot
1	form 1 all.txt	44,762	2	0.04	0.300	
2	form 2 all.txt	48,482	2	0.04	0.300	
3	form 4 all.txt	72,936	3	0.04	0.250	
4	form 5 all.txt	72,941	3	0.04	0.250	
						·

Fig. 10: The use of 'YELLOW' in Malaysian Secondary School English Language Textbooks for Forms 1-5

results show that although more than 90% of the 2000 high frequency words are covered in the textbooks, not all the words are distributed effectively within the textbooks to ensure learning. Therefore, material developers need to be cautioned that high coverage of the 2000 high frequency words does not ensure effective learning especially when the words are poorly distributed within and across textbooks.

## REFERENCES

Mukundan, J. and Aziz, A. (2008). A forensic study of vocabulary load and distribution in five textbooks within an entire Malaysian secondary school English language programme (Forms 1-5). *Pertanika Journal of Social Sciences and Humanities*, 15(2), 183-198.

Mukundan, J. (2003). State-sponsored textbooks: Are there hidden costs in these "free" books? *The English Teacher: An International Journal,* 6(2), 133-143. Bangkok: Institute for English Language Education, Assumption University Press.

Nation, I.S.P. (2004). A study of the most frequent word families in British National Corpus. In P. Bogards and B. Laufer (Eds.), *Vocabulary in a second language: Selection, acquisition and testing* (pp. 3-13). Amsterdam: John Benjamin.

Nation, P. and Newton, J. (1997). Teaching vocabulary. In J. Coady and T. Huckin (Eds.), *Second language vocabulary acquisition*. Cambridge: CUP.

Nation, I.S.P. (1993). Measuring readiness for simplified material: A test of the first 1000 words of English. In M.L. Tickoo (Ed.), Simplification: Theory and application. RELC Anthology Series, 31, 193-203.

Nation, P. (1990) *Teaching and Learning Vocabulary*. New York: Newbury House.

Schmitt, N., Schmitt, D. and Clapham, C. (2001). Developing and exploring the behaviour of two versions of the vocabulary tests. *Language Testing*, *18*(1), 55-88.

Schmitt, N. (2000). Vocabulary in Language Teaching. Cambridge: CUP.

## Jayakaran Mukundan and Anealka Aziz

Thornbury, S. (2002). *How to Teach Vocabulary*. Malaysia: Longman.

Waring, R. and Nation, I.S.P. (1997). Vocabulary size, text coverage and word list. In N. Schmitt and M. McCarthy (Eds.), *Vocabulary: Description, acquisition and pedagogy* (pp. 6 – 19). Cambridge: CUP.