

Roles of Language Policy Makers in Determining Academic Vocabulary Size of Tertiary Students

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Introduction

This paper explores the impact of change of language policy for secondary schools on tertiary education by comparing the academic vocabulary size of tertiary students before and after the change of government policy in Hong Kong.

Due to Hong Kong's position as a British colony for 150 years, approximately 90% of Hong Kong secondary schools used English as their medium of instruction (EMI) before the handover to China in 1997. In 1998 the Hong Kong government began to enforce a policy requiring that most secondary schools use Chinese as their medium of instruction (CMI). The percentage of English medium secondary schools then dropped dramatically to 25%. This policy has now been in effect for a decade, and a number of studies have been conducted on its impact on education in Hong Kong. Most of these studies, are, however, focused on the secondary school sector. A recent large-scale study by Tsang (2008), for example, found that the opportunity for CMI students to successfully enter a university in Hong Kong is 50% lower than that for EMI students. With such a major change taking place within the secondary school sector, the question arises as to how much impact the policy change has had on the tertiary sector. The current study aims to identify the level of impact by focusing on a particular area: the change of academic vocabulary size of tertiary students in Hong Kong before and after the change of policy.

To obtain a more comprehensive understanding of the size of academic vocabulary of the students participating in this project, the current study will not only measure the size of their receptive academic vocabulary, which was tested by Fan (2001) before the change of policy, but will also consider the size of their productive academic vocabulary, and the lexical richness of their writing. This will help in identifying the specific forms of help the current tertiary students need regarding academic vocabulary.

Methodology

Tests

The main instruments for the present study are two vocabulary tests: Nation's University Word Level test (1990) and Schmitt's Academic Vocabulary List test (2001). Schmitt's test, a revised and expanded version of Nation's University Word Level test, is on learner's

receptive vocabulary. It is based on Coxhead's Academic Word List, which was compiled from a corpus of 3.5 million words of written academic text in a variety of disciplines (Coxhead, 2000). The vocabulary in the test represents the words tertiary students need for academic studies. Nation's test is on learner's active or semi-productive vocabulary, since the words are tested in given contexts. Both tests are on the 5th level in the Vocabulary Levels Tests and are aimed at testing a learner's academic vocabulary size.

Both the tests and essay writing were administered in a controlled condition, i.e. in a classroom environment, and monitored by an instructor. No dictionary was allowed during the whole process.

Subjects

Over 1000 students in the Polytechnic University of Hong Kong were invited to participate in the two tests and 761 students (41% male and 59% female) participated. Of these participants, 413 volunteered to write an argumentative essay after the tests. The essays were later typed and then processed on Vocabprofiler. The tests were delivered in two slots: the first semester of the 2006 academic year, and that of 2007. All the participants were educated at secondary school in Hong Kong after the change of language policy.

Findings and analysis

1. Receptive vocabulary test – before and after change of policy

This test is to identify the size of passive vocabulary, the words a learner needs for reading and listening. For this test, participants are required to match a tested word with the correct explanation for the word. There are 30 items in the test.

Fan (2001) employed this test to gauge the vocabulary needs of tertiary students in Hong Kong before the change of policy and found university students then had "sufficient academic vocabulary for their study" (p.82). The present study, however, identified that 17.5% of the tertiary students did not reach the satisfactory level (80% correct in the test), which means they need help with their academic vocabulary (see Table1). This finding indicates that the change of policy in medium of instruction in secondary schools has had a significant impact on the size of academic vocabulary of tertiary students in Hong Kong. This is possibly because the change of language in textbooks from English to Chinese has dramatically decreased students' exposure to English vocabulary, and this could in turn lead to a reduction in the ability of these students to read textbooks and study-related materials.

Table 1 Results of the Receptive Test

		MOI Group		Total
		EMI	CMI	
knowledge of receptive vocabulary	Top 25%	133 35.8%	28 12.8%	161 27.3%
	Satisfactory (24 - 28 items)	220 59.1%	106 48.6%	326 55.3%
	Not satisfactory (20 - 23 items)	19 5.1%	59 27.1%	78 13.2%
	Poor (less than 20 items)	0 .0%	25 11.5%	25 4.2%
Total		372 100.0%	218 100.0%	590 100.0%

Satisfactory performance refers to knowing a minimum of 24 target words (or 80%).

To further investigate which group of students experiences a more serious impact, we analysed the performance of EMI and CMI students and found that the former performed significantly better in the test. A large majority of EMI students (94.9%) gained a satisfactory score, while only 61.5% of CMI students could reach this level of performance. This is to say that only a very small number of EMI students (about 5%) need help with either understanding lectures or reading textbooks and study-related-materials in the university, whereas almost 40% of CMI need such help.

This result, again, indicates the significant impact of the level of exposure to English vocabulary in secondary schools on the reading and listening ability of tertiary students. EMI students who had large exposure to English vocabulary through reading English textbooks and being instructed in English in class are able to manage their studies in the university. Many of the CMI students, who did not have such an exposure to English vocabulary, might find it difficult to understand lectures and cope with the required readings.

2. Productive test

This test is designed to gauge a learner's active academic vocabulary, the vocabulary needed for producing academic output, i.e., speaking and writing. This designation makes this test more demanding than the receptive one. It is therefore not surprising that the scores from this test are significantly lower than those from the receptive one (see Table 2 below). This adds further evidence to the established understanding that the distinction between knowing a word passively and knowing a word actively is significant. (Schmitt, 2000)

Table 2 Comparison of vocabulary knowledge by medium of instruction

	EMI (N=372)		CMI (N=218)	
	mean	S.D.	mean	S.D.
Percentage of words known	90.9 ^a	7.3	81.0 ^b	13.1

(Receptive Test)				
Percentage of words known (Productive Test)	54.4 ^a	16.7	37.6 ^b	16.8

There is a significant difference between the CMI and EMI students if the superscripts are different.

The results of this test show that the size of the participants' productive academic vocabulary is much smaller and the difference in the performance of these two groups of students is even more significant: 23.3% of the EMI students demonstrated a satisfactory knowledge of academic vocabulary, whereas only 2.3% of the CMI students did so (see Table 3 below).

This finding suggests that almost a quarter of EMI students (about 23%) could use academic vocabulary correctly in writing academic papers and delivering academic presentations while only very few CMI students (about 2%) could reach this level of performance.

Table 3 Results of the Productive Test

Number of words known**	Percentage of words known	EMI		CMI	
		Frequency (N=377)	Cumulative percent	Frequency (N=221)	Cumulative percent
18	100	3	0.8	0	
17	94.4	3	1.6	0	
16	88.9	7	3.4	0	
15	83.3	13	6.9	1	0.5
* 14	77.8	14	10.6	3	1.8
	Total		23.3		2.3

* Students who score 83% or higher (14 items or more) in the test perform satisfactorily.

These findings show that the medium of instruction in secondary schools has an even more significant impact on the productive language skills of tertiary students. Given this, and since "productive use of academic vocabulary is an important component of academic success" (Nation, 2001, p.197), immediate assistance on productive academic vocabulary ought to be provided to students, in particular CMI students, in Hong Kong.

3. Writing test

The writing test was conducted in order to identify whether those who performed well in the vocabulary tests could activate more academic vocabulary in their essay writing. In order to do this we compared the number of academic words employed by groups who performed at different levels in the receptive test. An ANOVA test (see Table 4) shows a significant difference ($p=0.00$) in the number of academic words activated by different groups: the higher level the participants achieved in the test, the more academic vocabulary they activated in their writing. This suggests that learners who know more academic words use more academic words in written communication.

Table 4 Effect of receptive vocabulary on activated academic vocabulary in writing

receptive vocabulary knowledge	N=420	Number of AWL words in essay			
		mean	S.D.	min	max
Satisfactory (top 25%)	97	22.3 ^a	2.0	5	46
Satisfactory	249	18.0 ^b	2.0	3	45
Not satisfactory	58	13.5 ^c	2.1	5	27
Poor (less than 20 items)	16	10.8 ^c	2.2	4	19

There is a significant difference in the number of AWL words used if the superscript is different.

Apart from this, the results of the test also show a strong positive correlation between a learner's academic vocabulary size and the quality of his academic writing, further confirming Nation's conviction that "knowing academic vocabulary is a high priority goal for learners who wish to do academic study in English" (p.197). It can be seen from Table 5 that EMI students who have gained a larger academic vocabulary size produced much more top quality essays (15.5% A grade) than CMI students (2% A grade).

Table 5 Writing proficiency and medium of instruction

		MOI Group		Total
		EMI	CMI	
Essay writing grade	D Grade	5 3.2%	10 10.0%	15 5.9%
	C grade	66 42.6%	56 56.0%	122 47.8%
	B grade	60 38.7%	32 32.0%	92 36.1%
	A grade	24 15.5%	2 2.0%	26 10.2%
Total		155 100.0%	100 100.0%	255 100.0%

These findings provide more evidence for the argument that medium of instruction in secondary schools is of importance for the tertiary sector. English medium schools provide their students with more exposure to English academic vocabulary. This exposure then enables learners to activate more academic vocabulary in their written communication, and, more importantly, to write higher quality essays.

Conclusion

The study has found language policy makers play a crucial role in determining the language proficiency of students. The Hong Kong language makers' decision in changing the medium of instruction in secondary schools has had a significant and negative impact on the size of academic vocabulary of tertiary students. The size of academic vocabulary of the tertiary

students now is much smaller than it was before the change of the policy. Tertiary students now need much more assistance with their academic vocabulary.

Based on empirical evidence, the study has also identified that the current tertiary students not only need help with receptive academic words but also productive ones. CMI students require more urgent help with academic vocabulary than EMI students.

In the light of such a situation, it is strongly suggested that the Hong Kong government review its policy on the medium of instruction in secondary schools. To help those students who are experiencing the negative impact from the change of the policy, the universities here should provide immediate help in terms of resources and man power to assist the students on the campus.

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