LEARNING ENVIRONMENTS AND THE USE OF VOCABULARY LEARNING STRATEGIES: A CASE STUDY OF CHINESE LEARNERS

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Abstract

This paper reports a survey study of how Chinese students use strategies when learning second language vocabulary. The focus of the study is on the effect of learning environments (EFL vs. ESL) on the use of vocabulary learning strategies. The subjects are Chinese secondary school students learning English in China (EFL context) and in Singapore (ESL context).The questionnaire used in the survey was a modified version of Gu and Johnson (1996). 450 secondary school students, aged from 16 to 19, from two secondary schools in Harbin, China, and one boarding school in Singapore participated in the survey. The profile of the students' learning beliefs, sources and strategies was examined in relation to their learning environments. The t-test results showed that learning environment was significant factors in affecting vocabulary learning beliefs, sources and strategy use. The findings suggest that language environments can influence individuals' vocabulary learning profile. Thus, the combined effects of the teaching emphasis and the amount of exposure to the target language in and out of the classroom should be considered closely in order to understand the strategy choice of Chinese EFL and ESL learners.

Key words: Vocabulary learning strategies; Context, environment; EFL; ESL

INTRODUCTION

While language learning research has so far produced an impressive amount of insight into language learning strategies in general, the empirical research on vocabulary learning strategies is more limited, especially on the effect of learning environments on the use of vocabulary learning strategies.

Vocabulary learning strategies must play a crucial role in second language acquisition, considering that many second language acquisition researchers concur that for ESL learners, vocabulary is the bedrock of second language acquisition (Ellis, 1994) but meanwhile it is the greatest obstacle (Alderson, 1984; Cohen, 1991; Huckin & Bloch, 1993; Huckin & Coady, 1999). In this sense, studies on vocabulary learning strategies are likely to yield insightful implications for effective learning and instruction.

Learning strategies are determined not only by a learner's personal factors but also by the socio-cultural context where s/he studies. A learning strategy that is effective and valued in one learning context may well be found inappropriate in another context (Wang, 2006, p.77). In reality, contexts shape what an individual needs and wants to learn, when and where the learning takes place, and how the learning is perceived (Clement & Gardner, 2001). However, the effect of learning context on vocabulary learning has received only cursory attention (Gu, 2003a). An EFL context is far different from an ESL one but so far most studies would either ignore the educational and cultural traditions, or try to confine the contextual dimension by focusing on one homogeneous group of learners.

Kojic-Sabo and Lightbown (1999) is the only one study as yet to focus on learning context. They carried out a survey study in which a questionnaire was administered to 47 ESL and 43 EFL students. The five variables investigated were the amount of time the subjects spent on vocabulary learning, the extent to which they engaged in independent language study, the type of vocabulary learning activities they did on a regular basis, the frequency and elaborateness of their note-taking and reviewing efforts, and the frequency and elaborateness with which they used dictionaries. Cluster analysis was employed for identifying relatively homogeneous subgroups in the whole subject population. A total of eight different profiles of approaches to lexical learning were identified with Cluster 8 having only one member.

The subjects' achievement level was determined through their performance on a Yes/No test assessing vocabulary knowledge and a cloze test assessing overall English proficiency. Of the eight clusters, two (Clusters 1 and 6) comprised high achievement students, two (Clusters 4 and 5) lower achievement students, while the remaining clusters fell between. The analysis of the relationship between strategy use and performance on the two tests suggested a strong relationship between the amount of strategy use and levels of success in language learning. However, the examination of the use of particular strategies showed that time and learner independence were the two crucial strategies most closely related to success in vocabulary learning and overall English proficiency (Clusters 1 and 6). Clusters of the students (Clusters 4, 5 and 8) that made use of neither of these two strategies

exhibited the lowest proficiency level, whereas the students in Clusters 2, 3 and 7 that used either time and learner independence attained average scores on the two measures of vocabulary knowledge and overall English proficiency. In this respect, self-initiation and efforts on the learners' part played a crucial role in the language achievement.

Two other findings of the study with regard to strategies of review and dictionary use in ESL and EFL environments deserve special attention. With both Cluster 1 and Cluster 6 comprise high achievers, but the 23 students in Cluster 6 reported using all five strategies types extensively but Cluster 1 students did not report making use of review. This difference was accounted for by the fact that Cluster 1 mainly contained ESL students while Cluster 6 comprised a slightly larger number of EFL (N=13, 56.5%) than ESL students. It was speculated that the strategy of review was not as crucial for the ESL learners who were exposed to the target language on a daily basis as it was for the EFL learners who were not. The environment might provide ESL students with opportunities to contact, and thus they reviewed newly encountered words in an indirect way. However, the EFL learners were deprived of such indirect, context-embedded lexical learning, and they were seemingly better off only if they set out to compensate for that with direct and deliberate review activities. However, reviewing activities alone were not sufficient to ensure lexical learning, as seen from the strategic profile of Cluster 5. The students in Cluster 5 had low scores on all four variables except review, and their achievement level, in terms of both lexical and overall proficiency, was the lowest in the whole subject population.

Except for Kojic-Sabo and Lightbown (1999), the few studies that have been carried out to investigate what learners do in their vocabulary learning (Ahmed, 1989; Gu & Johnson, 1996; Sanaoui, 1995) only focused on one homogeneous group of learners. Ahmed (1989) was amongst the first to elicit vocabulary strategies learners spontaneously employ. He investigated vocabulary learning strategies of 300 Sudanese EFL learners while they were studying a set of 14 English words. The good learners were found to be more aware of what they could learn about new words, paid more attention to collocation and spelling, and were more conscious of contextual learning. By contrast, the underachieving learners refused to use the dictionary and almost always ignored unknown words. They were generally characterized by their apparent passiveness in learning. They also took each word as a discrete item unrelated to previously learned words.

Sanaoui (1995) examined approaches to vocabulary learning involving 50 ESL students registered in a 6-week vocabulary course, at the end of which he impressionistically identified two major approaches to vocabulary learning: structured approach and unstructured approach. Some

learners seemed to systematically organize their learning while the others lacked routines and organization in their vocabulary studies. Sanaoui (1995, p. 26) found that "learners who had a structural learning approach were more successful in retaining vocabulary taught in their classes than learners who had an unstructured learning approach", and "a structured approach was found to be more effective than an unstructured approach for both beginning and advanced learners". An analysis shows that the students with the structured approach tended to employ strategies of recording the words, immediate repetition, spaced repetition, contextual association, linguistic association, etc. However, in a study replicating Sanaoui's research, Lessard-Clouston (1996) failed to find any relationship between students' approaches to vocabulary learning surveyed through a questionnaire and their scores on TOEFL which were taken as an indication of their overall English proficiency.

Gu and Johnson (1996) studied 850 university EFL students in China, and tried to establish how different vocabulary strategies were related to language learning outcomes. Both Pearson's correlation and multiple regression analyses revealed that self-initiation, selective attention, and deliberate activation of newly learned words consistently predicted both vocabulary size and general proficiency. Other predictors of success included contextual learning, dictionary, and note-taking strategies.

The above studies tend to reveal that good and poor learners differ in their vocabulary learning strategies, which substantiates the claim of Williams and Burden (1997) that the fundamental difference between successful and unsuccessful learners is not merely their IQ but also to their employment and deployment of learning strategies. What's more, the studies have come up with evidence that the English language proficiency of learners in great measure correlates with their vocabulary learning strategies (e.g. Ahmed, 1989; Gu & Johnson, 1996; Kojic-Sabo & Lightbown, 1999). In this vein, research on vocabulary learning is likely to yield insightful implications for effective second language learning and instruction.

However, the empirical research on the effect of learning environments (EFL vs. ESL) on the use of vocabulary learning strategies is quite limited. Kojic-Sabo and Lightbown (1999) did not control cultural learning styles nor allow for cultural differences in approaches to learning. Besides, most of the studies were conducted in North American settings and the participants were overwhelmingly adult learners, university students or immigrant ESL students. Last but not least, the participants were often homogeneous in the sense that they were from the same cohort or level of education. These points raise questions as to the generalizability of the findings across different social, educational and cultural settings. Thus, this study intends to fill in this gap by comparing how Chinese learners at an

intermediate level in China (EFL setting) and in Singapore (ESL environment) learn vocabulary in Asian contexts.

RESEARCH QUESTIONS AND HYPOTHESES

Based on the relevant literature reviewed above, let us posit a list of research questions and hypotheses for our study as follows:

Research Questions

(1) Do Chinese students in an EFL environment differ from their counterparts in an ESL environment in their beliefs about vocabulary learning?
(2) Do Chinese students in an EFL environment differ from their counterparts in an ESL environment in their sources of vocabulary learning?
(3) Do Chinese students in an EFL environment differ from their counterparts in an ESL environment in their choice and use of vocabulary learning strategies?

Hypotheses

(1) PRC-based students tend to believe that vocabulary should be memorized while Singapore-based students tend to believe that words should be learned through use;
(2) Singapore-based students make more use of the socio-cultural environment (what happens outside the classroom and the school) as a vocabulary learning source to learn vocabulary, and increasingly so over time than their counterparts in China;
(3) PRC-based students make use of more strategies of memorization/rehearsal types, and Singapore-based students make use of more social interaction and daily communication strategies.

METHOD

Participants

Two groups of participants in the study were drawn from two secondary schools in Harbin, China, and one boarding school[1] in Singapore. The participants were high school students (Year 1 to Year 3) in China and secondary four to Junior College (JC) 2 students in Singapore. They were peers of the same age, ranging from 16 to 19 years old.

Those in China were studying English as a foreign language as prescribed in the national curriculum. The students had six 45-minute English lessons from Monday to Friday every week in the academic semesters. The teachers taught in traditional grammar-translation methods, explaining in detail word meaning and usage, sentence formation, and English grammar. Thus, the students were taught to focus on each word in a text and to examine the text carefully for any unknown grammatical phenomenon. English was one of the compulsory subjects the students had to take their college entrance examinations at the end of High School Year 3. Meanwhile, the ever-increasing explosive growth of cultural, economic and political exchange between China and other countries created a craze for English in China, which may affect the students' English learning in one way or another.

The participants in Singapore were studying English as a second language[2] and would be taking GCE 'O' Level examination at the end of Secondary School Year 4 and GCE 'A' Level examination at the end of Junior College Year 2. Like their counterparts in China, the students also had six 45-minute English lessons from Monday to Friday every week in the academic semesters. These participants in Singapore were also from China and had been in Singapore for secondary education for over one year. However, in the ESL context of Singapore, English is used as the medium of instruction in all lessons except Chinese and is widely used in daily

[1]In Singapore, boarding schools are usually affiliated to schools but often function independently and do not provide daytime classroom instructions. Thus, boarding schools in Singapore are different from those in other countries, such as Australia, China, UK and USA where the boarding schools are full normal schools and conduct daytime teaching. In Hwa Chong Institution Boarding School (HCIBS) where the data collection was conducted in Singapore, there are about 900 secondary school students from fifteen countries and the majority of the boarders (over 500) are from China.

[2]In the Singaporean context, students are considered to have English as their first language as English is the language of instruction in schools and universities and is the basic working language of the country. However, as English is not their native language spoken after school with most of their peers, the participants involved are referred to as ESL learners in this study. Please refer to Section 3.2.

communication. In English classes, the participants are taught through a communicative approach in which the teacher's role in the learning process is recognized as less dominant. Though some attention is paid to grammar in English classes for the upper secondary and Junior College students, more emphasis is placed on discourse level, especially on analytical skills in comprehension. Grammar items are not taught out of context. The students are encouraged to read more for the purpose to enlarge their vocabulary and improve their comprehension. The students are expected to answer questions in their own words instead of lifting sentences from passages. Classroom activities encourage interaction among the students and the teacher. The teacher is recognized both as the conventional classroom teacher and a facilitator. After the class, the use of language in daily life gives the students plenty of chances to use the target language. Compared to the poor input learning context in China, the participants enjoy rich exposure to the target language in the ESL context of Singapore.

Students at these levels in Singapore were chosen for the study because they had experienced at least one full year of secondary school life. Through their local study, the students have generally learnt enough English for daily communication and classroom discussion. Through mingling with local peers and participating in various activities both inside and outside school, they have learned to appreciate the local cultures and the great majority of them can pass the year-end examinations along with the local peers. Some of the bright Singapore-based PRC students can even represent their schools to participate in intermural or international competitions in English. Hence, having been formally assessed through presentations, project work, various tests and examinations, the participants are aware of the demands and expectations of secondary school education in Singapore, making them adept in the transition from EFL learning experience in China to ESL learning context in Singapore. In this sense, their learning strategies were quite typical of intermediate level students in the ESL context.

TABLE 1
Participant distribution in China by achievement level and gender

Year/Level	Achievement Level			Female	Male	Total
	Upper	Moderate	Lower			
High School Year 1	22	26	27	37	38	75
High School Year 2	25	25	25	37	38	75
High School Year 3	24	26	25	37	38	75
					Total	225

TABLE 2
Participant distribution in Singapore by achievement level and gender

Year/Level	Achievement Level			Female	Male	Total
	Upper	Moderate	Lower			
Secondary 4	23	27	25	38	37	75
JC 1	24	26	25	37	38	75
JC 2	24	27	24	39	36	75
					Total	225

To answer the proposed research questions, a total of 450 students were involved in the questionnaire survey, 225 in China and 225 in Singapore, and the distribution of them is reflected in Tables 1 and 2. The students' English language proficiency was collected through self-reports in the questionnaires**.**

Instrument

The instrument used in this study for eliciting vocabulary learning beliefs, vocabulary development sources and vocabulary learning strategies was a vocabulary learning questionnaire (VLQ) that was a modified version of Gu and Johnson (1996). Gu and Johnson's questionnaire had to be modified with some items removed and new items added in because the current study was quite different from Gu and Johnson's (1996) study in terms of the purposes and scopes. During the VLQ modification process, a number of vocabulary learning articles, reference books and textbooks were examined and compared with Gu and Johnson's VLQ version. After that, several English teachers in Hwa Chong Institution, Singapore, were asked to review the revised vocabulary learning questionnaire and add strategies they were aware of from their teaching experience. Then, 34 secondary three PRC students in Hwa Chong Institution were asked to write a report on how they studied English vocabulary words. The vocabulary learning questionnaire was further amended.

Before the final administration, piloting was used: to check the clarity of the language used in the questionnaire and to check content validity. For the purpose of checking the clarity of the language used in the questionnaire, six secondary three PRC students in Hwa Chong Institution were invited for individual meetings in April 2005 to complete the questionnaire and the time required for completing it was observed. Each student was then asked to comment on the language and the layout of the questionnaire. The administration copy was in Chinese and the feedback from the students resulted in rephrasing some statements so as to make the meaning of the statements clearer. To check content validity, the students

were also requested to comment on the content of the statements in each strategic category as a way to establish the statements were

TABLE 3
The internal consistency reliabilities of VLQ

Beliefs, sources and strategies	No. of items	Variable labels	Reliabilities
Importance perception	3	IMPORTANCE	α= .56
Difficulty perception	3	DIFFICULTY	α= .72
Knowing a word	3	KNOWING	α= .46
Memorization	6	MEMORIZATION	α= .53
Learning words from use	3	USE	α= .46
Learning words from reading	3	READING	α= .55
Classroom learning	4	CLASSLEARN	α= .47
Independent learning	6	INDEPENDENT	α= .68
Daily communication	3	DAILYUSE	α= .82
Selective attention	6	SELECT	α= .62
Self-initiation	6	INITIATION	α= .82
Wider context	5	DISCOURSAL	α= .51
Immediate context	5	LOCAL	α= .70
Dictionary use strategies for comprehension	4	COMDICTUSE	α= .60
Extended dictionary strategies	6	EXTENDEDDICTUSE	α= .77
Dictionary look-up strategies	5	DICTLOOKUP	α= .71
Social interaction	3	SOCIAL	α= .62
Meaning-oriented note taking	4	MEANINGNOTE	α= .65
Usage-oriented note taking	4	USAGENOTE	α= .75
Use of word lists	4	USING LIST	α= .69
Oral repetition	3	ORALREP	α= .66
Visual repetition	3	VISUALREP	α= .67
Association/elaboration	5	ASSOCIATION	α= .79
Visual encoding	4	VISUALCOD	α= .53
Auditory encoding	3	AUDITORYCOD	α= .72
Use of word-structure	3	WORD-STRUCTURE	α= .68
Semantic encoding	3	SEMANTICCOD	α= .70
Contextual encoding	3	CONTEXTCOD	α= .62
Activation	5	ACTIVATION	α= .72

measuring what they claimed to measure. The piloting showed that the questionnaire took an average of 40 minutes to complete and this was considered to be appropriate (Gu & Johnson, 1996). A seven-point Likert scale was adopted for the questionnaire. The Likert scale reflected a continuum of agreement, which ranged from *absolutely agree/extremely true*, *agree/true*, *moderately agree/generally true*, *neutral*, *moderately disagree/generally untrue* to *disagree/untrue* and *absolutely disagree/*

extremely untrue. The responses elicited were correspondingly coded in numbers from 7, 6, 5, 4, 3 to 2 and 1.

To check the reliability of the questionnaire before the administration, the questionnaire was pilot tested in early May 2005 with some of the PRC students in Hwa Chong Institution Boarding School. Fifty-five copies of the questionnaire were distributed and a total of 53 questionnaires were returned. The return rate was 97%. The reliability of the questionnaire was analyzed by employing the Cronbach's alpha test on SPSS (Statistical Package for Social Sciences). A listwise deletion of missing data left 47 valid cases for the procedure.

Item analysis was done based on the contribution of each item to the overall reliability of the strategy category (Gu & Johnson, 1996; O'Malley & Chamot, 1990; Oxford, 1990) to which it belonged (item-total statistics and inter-item correlation). In this regard, items in the questionnaire that contributed less to their respective categories and those that did not correlate with other items in the same category were removed. Besides, following the principle of parsimony, categories that correlated highly with other categories were combined (high inter-category correlation). After deleting weak items and combining highly correlated categories, the remaining. 29 categories were left, with altogether 121 items included. The internal consistency of the final form of the categories ranged from moderate to satisfactory, as shown by the alpha figures in Table 3. Therefore, it was assumed that the instrument had a sufficient internal consistency to be used in the main study.

RESULTS AND DISCUSSION

Beliefs about Vocabulary Learning

The independent samples t-test results revealed that the ESL and the EFL students differed significantly ($p<.05$) in 4 of 6 belief categories as shown in Table 4. Vocabulary seemed to carry more importance in the mind of the ESL students in their English learning compared with their EFL counterparts (ESL M=5.87, EFL M=5.52, t=4.17, p=.000), and the ESL students also reported a firmer belief that words can be picked up by using them (ESL M=5.59, EFL M=5.27, t=3.95, p=.000). In addition, the ESL students had a stronger belief that learning new words means knowing more than its pronunciation and spelling, involving learning words and set phrases usually going with them (ESL M=6.06, EFL M=5.81, t=3.09, p=.002), suggesting the ESL students demonstrated a more native-like organization of their lexicon, as Milton and Meara (1995) found with their study abroad learners. Nevertheless, the complex task of vocabulary learning seems less