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

difficult to the ESL students, though the difference in the beliefs between the two groups of students was not significant. Relative to the EFL students, the ESL ones believed less in memorization of words (ESL M=3.62, EFL M=3.84 t= -2.08, p=.038) but more in learning them from use and reading (see Table 7). The results of the independent samples t-test confirm the hypothesis that 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 and reading.

This difference can be attributed to two reasons. First, the EFL students studied in an input-poor environment while the ESL ones studied in an input-rich environment. Second, the EFL students were under a stronger influence of the Confucian heritage culture, the quantitative tradition in educational thinking, which conceives learning as the aggregation of content. Thus, to the EFL students, to be a good learner is to know more so that the ability to reproduce previously learned content quickly and accurately becomes the criterion for good learning (Cole, 1990).

TABLE 4
Beliefs about vocabulary learning of EFL and ESL students

Beliefs	Learning Context	Mean	SD	N	T	p
Importance perception	ESL	5.87	.857	222	4.172	.000
	EFL	5.52	.920	219		
Difficulty perception	ESL	4.83	1.219	220	-.389	.697
	EFL	4.87	1.099	221		
Knowing a word	ESL	6.06	.942	223	3.088	.002
	EFL	5.81	.748	222		
Memorization	ESL	3.62	1.107	211	-2.082	.038
	EFL	3.84	1.011	205		
Learning words by use	ESL	5.59	.717	218	3.948	.000
	EFL	5.27	.956	218		
Learning words from reading	ESL	5.25	.672	217	1.757	.080
	EFL	5.12	.913	217		

Based on the above results, it can be said that the EFL and the ESL students differed far more than they resembled each other in their vocabulary learning beliefs. For the EFL students, vocabulary seems to assume slightly less importance in their English learning, which is accounted for by the fact that grammar is the outstanding component in their curriculum while grammar is hardly touched upon in the ESL learning context. Though the ESL students reported a significantly firmer belief that it is a complicated job to learn new words, they did not consider it as difficult as the EFL

students. This may be due to the fact that the ESL students learn English as a second language, with English input so abundant in both school and daily life that they pick up words incidentally without much conscious effort. This is supported by their low scores on the intentional cognitive learning strategy of rote memorization but high scores on less intentional learning from reading and actually using them, which proves the hypothesis that EFL students believe more in rote memorization than their ESL counterparts, who tend to believe that words should be learned through use.

Sources of Vocabulary Learning

TABLE 5
Vocabulary learning sources of EFL and ESL students

Sources	Learning Context	Mean	SD	N	t	P
Classroom learning	ESL	3.85	.945	219	-25.506	.000
	EFL	5.95	.769	220		
Independent learning	ESL	4.68	1.015	219	12.146	.000
	EFL	3.51	.986	216		
Daily communication	ESL	4.76	1.003	219	16.142	.000
	EFL	3.04	1.210	216		

As expected of the three dimensions of vocabulary learning sources, the independent samples t-test results (Table 5) showed that the ESL and the EFL students differed significantly in all the three vocabulary learning sources. The EFL students reported learning from classrooms much more than their ESL counterparts (ESL M=3.85, EFL M=5.95, t=25.51, p=.000) while the ESL students ascribed their vocabulary learning far more to independent learning (ESL M=4.68, EFL M=3.51, t=12.15, p=.000) and daily communication (ESL M=4.76, EFL M=3.04, t=16.14, p=.000) than their EFL counterparts. Presumably, in the input-poor EFL learning environment, the classroom is the predominant venue for the students to learn vocabulary from texts, role-play mini-dramas, dialogues, their teachers and their classmates. By comparison, the ESL students enjoy a much more input-rich environment besides their classroom in which the teachers focus on comprehension analysis and writing skills instead of spoon-feeding them linguistic knowledge as their former EFL English teachers did in China. Thus, in terms of vocabulary learning, they felt they benefited more from independent learning, for example, from reading and daily communication. The results substantiate the first half of the second hypothesis that the Singapore-based students make more use of the socio-cultural environment as a vocabulary learning source to learn vocabulary than their counterparts in China.

Vocabulary Learning Strategies

Table 6 displays the independent samples t-test results of the EFL and the ESL students. To make it more decipherable, the results are analyzed in terms of metacognitive strategies and cognitive strategies.

Metacognitive Strategies

Two metacognitive strategies, selective attention and self-initiation, were surveyed and the results reveal that the EFL students (M=4.86, SD=0.91, N=224) rated selective attention higher than their ESL counterparts (M=4.63, SD=0.98, N=215) while the latter (M=4.30, SD=0.95, N=220) ranked self-initiation slightly higher than the EFL learners (M=4.28, SD=0.71, N=223). Nevertheless, the independent samples t-test showed that the inter-group differences were significant only over selective attention but not over self-initiation.

The difference in selective attention was probably due to the fact that the EFL students have a clearly spelt out English learning syllabus in which all the words and their collocations required to be learnt are neatly listed, and thus the students might have a better sense of which words need to be learnt. As for the self-initiation discrepancy, it was possibly due to the difference in the parental supervision. The EFL students are closely supervised by their parents after school at home but the ESL students are overseas students. They stay in a boarding school and though the teacher mentors act as loco parentis, each teacher mentor has around 20 students to take care of, thus it is understandable that they can not pay as much attention to the boarders under their care as the EFL students' parents can to their own children at home.

TABLE 6
Vocabulary learning strategies of EFL and ESL students

Strategies	Learning Context	Mean	SD	N	t	P
Selective attention	ESL	4.64	.980	215	-2.465	.014
	EFL	4.86	.909	224		
Self-initiation	ESL	4.30	.947	220	.172	.863
	EFL	4.28	.713	223		
Use of wider context	ESL	4.99	.800	215	3.210	.001
	EFL	4.70	1.048	214		
Use of immediate context	ESL	4.61	.978	217	-4.229	.000
	EFL	4.96	.739	219		
Use of English-English dictionary	ESL	5.18	1.652	218	8.852	.000
	EFL	3.74	1.246	219		
Use of English-Chinese dictionary	ESL	4.10	1.764	216	-5.089	.000
	EFL	4.97	1.809	220		
Use of Chinese-English dictionary	ESL	4.29	1.836	221	2.592	.010
	EFL	3.87	1.643	224		
Dictionary use strategies for comprehension	ESL	5.18	.800	216	7.277	.000
	EFL	4.47	1.174	218		
Extended dictionary strategies	ESL	5.11	.804	217	7.250	.000
	EFL	4.45	1.053	210		
Dictionary look-up strategies	ESL	4.45	1.120	216	-3.086	.002
	EFL	4.75	.902	220		
Social interaction	ESL	4.88	1.009	217	8.985	.000
	EFL	3.97	1.103	218		
Meaning-oriented note taking	ESL	4.46	.982	210	2.009	.045
	EFL	4.27	.943	219		
Usage-oriented note taking	ESL	4.33	1.174	213	-.374	.708
	EFL	4.37	1.107	219		
Use of word lists	ESL	3.73	.870	217	-2.837	.005
	EFL	3.99	1.064	216		
Oral repetition	ESL	4.14	1.089	215	-5.049	.000
	EFL	4.68	1.123	219		
Visual repetition	ESL	3.70	1.089	216	-6.761	.000
	EFL	4.42	1.105	207		
Association/elaboration	ESL	4.03	1.075	215	-1.994	.047
	EFL	4.23	1.034	216		
Visual encoding	ESL	3.88	1.232	215	-.665	.507
	EFL	3.96	1.142	217		
Auditory encoding	ESL	4.13	1.250	219	-.577	.564
	EFL	4.20	1.179	219		
Use of word-structure	ESL	4.49	1.110	216	5.667	.000
	EFL	3.85	1.257	216		
Semantic encoding	ESL	4.40	1.225	217	4.158	.000
	EFL	3.92	1.185	219		
Contextual encoding	ESL	4.88	.984	215	6.399	.000
	EFL	4.22	1.144	213		
Activation	ESL	4.73	.842	214	6.031	.000
	EFL	4.13	1.186	213		

TABLE 7
Vocabulary learning beliefs, sources and strategies of Chinese EFL and ESL students

Beliefs, Sources and Strategies	EFL Students			ESL Students		
	N	M	SD	N	M	SD
Importance perception	219	5.52	.920	222	5.87	.857
Difficulty perception	221	4.87	1.100	220	4.83	1.219
Knowing a word	222	5.81	.748	223	6.06	.942
Memorization	205	3.84	1.011	211	3.62	1.107
Learning words from use	218	5.27	.956	218	5.59	.717
Learning words from reading	217	5.12	.913	217	5.25	.672
Classroom learning	220	5.95	.769	219	3.85	.945
Independent learning	216	3.51	.986	219	4.68	1.015
Daily communication	216	3.04	1.210	219	4.76	1.003
Selective attention	224	4.86	.909	215	4.64	.980
Self-initiation	223	4.28	.713	220	4.30	.947
Use of wider context	214	4.70	1.048	215	4.99	.800
Use of immediate context	219	4.96	.738	217	4.61	.978
Use of English-English dictionary	219	3.74	1.245	218	5.18	1.652
Use of English-Chinese dictionary	220	4.97	1.809	216	4.10	1.764
Use of Chinese-English dictionary	224	3.87	1.643	221	4.29	1.836
Dictionary use strategies for comprehension	218	4.47	1.174	216	5.18	.800
Extended dictionary strategies	210	4.45	1.053	217	5.11	.804
Dictionary look-up strategies	220	4.75	.902	216	4.45	1.120
Social interaction	218	3.97	1.103	217	4.88	1.009
Meaning-oriented note taking	219	4.27	.943	210	4.46	.982
Usage-oriented note taking	219	4.37	1.107	213	4.33	1.174
Use of word lists	216	3.99	1.064	217	3.73	.870
Oral repetition	219	4.68	1.123	215	4.14	1.089
Visual repetition	207	4.42	1.105	216	3.70	1.089
Association/elaboration	216	4.23	1.034	215	4.03	1.075
Visual encoding	217	3.96	1.142	215	3.88	1.232
Auditory encoding	219	4.20	1.179	219	4.13	1.250
Use of word-structure	216	3.85	1.257	216	4.49	1.110
Semantic encoding	219	3.92	1.185	217	4.40	1.225
Contextual encoding	213	4.22	1.144	215	4.88	.984
Activation	213	4.13	1.186	214	4.73	.842

Cognitive Strategies

A total of 21 strategies fall under this category, which is composed of encountering strategies and consolidating strategies. Encountering strategies, in turn, consist of contextual guessing strategies, dictionary strategies, socialization strategies and note-taking strategies while consolidating strategies are made up of rehearsal strategies and encoding

strategies. In the following sections, I will look at the strategy use of the different categories in detail.

Encountering Strategies

If learners do not know a word, they must try to decode its meaning by guessing from the context, guessing from their structural knowledge of the language, using reference books, and asking someone else. These encountering strategies facilitate gaining knowledge of a new word initially and will be discussed in the categories of contextual guessing strategies, dictionary strategies, social interaction and note-taking strategies in this section.

Contextual Guessing Strategies

The independent samples t-test results in Table 6 reveal that the ESL and EFL students differed significantly in guessing using both immediate context (ESL M=4.61, EFL M=4.96, t=4.23, p=.000) and wider context (ESL M=4.99, EFL M=4.70, t=3.21, p=.001), with the EFL students using the immediate context more and their ESL counterparts using the wider context more. This might be explained by the fact that except for the Chinese lessons, all the reading materials of the ESL students are in English and thus they must read much more than their EFL counterparts and they possibly know the importance of guessing using wider context more than the EFL students, though they also make much use of the immediate context (M=4.61, SD=0.98, N=217) as well.

Dictionary Strategies

The six dictionary use strategies under study looked at the types of the dictionaries the students used and the manners in which they used the dictionaries.

The independent samples t-test results showed that the ESL and the EFL students were significantly different in the use of all the six dimensions of dictionary use investigated. The ESL students reported more use of English–English dictionaries (ESL M=5.18, EFL M=3.74, t=8.85, p=.000) than the EFL students while the latter reported more use of English–Chinese dictionaries (ESL M=4.10, EFL M=4.97, t=-5.09, p=.000). That the EFL and the ESL groups diverged on the types of dictionaries used is due to the fact that English is widely used in the ESL context and Chinese equivalents or translations of new words are seldom needed. Perhaps, due to the need to express ideas in English expressions which are beyond them, the ESL

students have to use more Chinese–English dictionaries to find the proper words and that may account for why the ESL students reported significantly more use of Chinese–English dictionaries than their EFL counterparts (ESL M=4.29, EFL M=3.87, t=-2.59, p=.01). But unlike the ESL students, the EFL students more often than not need to understand the Chinese equivalents of new words encountered because Chinese is the medium of instruction most of the time, even in English lessons. This is in line with the finding of Goh and Liu (1999) that their EFL Chinese learners favoured translation. Thus, in view of the EFL and the ESL language learning environments, it is not surprising that the ESL students reported more use of English–English dictionaries and Chinese–English dictionaries while the EFL students reported more use of English–Chinese dictionaries.

In terms of dictionary use for comprehension, the ESL students reported significantly greater use (ESL M=5.18, EFL M=4.47, t=7.28, p=.000), probably because of the aforementioned reason that they read more and the materials they read contain more new vocabulary since their syllabus, unlike the one for their EFL counterparts, does not prescribe vocabulary. As for extended dictionary strategies, the ESL students reported significantly greater use (ESL M=5.11, EFL M=4.45, t=-7.25, p=.000) as well. This is possibly accounted for by the fact that the ESL students use English, both written and oral, more and they have to look up new words to find their collocations and usages so that they can use them properly. But the EFL students reported significantly higher ratings (ESL M=4.45, EFL M=4.75, t=3.09, p=.002) on the dimension of looking-up strategies, such as removing the inflections or affixes to recover the basic forms to look up new words, or using part of speech, pronunciation, style, collocation, meaning, etc. to integrate dictionary definitions into the context of the unknown words. This difference is probably accounted for by the fact that relative to the ESL students, the EFL students possess a smaller vocabulary size and have to resort to some ‘techniques’ to facilitate their dictionary consultation process. Alternatively, grammar is foregrounded more for the EFL students, which helps them to more often use some specific strategies such as part of speech and inflections.

Social Interaction

The results of the independent samples t-test, as anticipated, show that the EFL and the ESL students differed significantly in the dimension of learning vocabulary from social interaction (ESL M=4.88, EFL M=3.97, t=-8.99, p=.000), with the ESL students reporting much higher usage than their EFL counterparts. While Freed (1995) noted that study abroad learners

spoke significantly more and better than purely instructed learners, Regan (1995) indicated that increased contact with the native speakers in the target language context was an important causal factor in the development of the learner's sociolinguistic competence. This study has confirmed the second part of the third hypothesis that the Singapore-based students make use of more social interaction and daily communication strategies in their vocabulary learning.

Note-taking Strategies

There are two dimensions of note-taking, meaning-oriented note taking and usage-oriented note taking, studied under this category. A closer look at the mean frequency ratings of the EFL and the ESL groups reveals that the ESL students reported higher than the EFL students on meaning-oriented note taking while the latter reported slightly higher on usage-oriented note taking. The independent samples t-test results in Table 6 show that the ESL and the EFL students differed significantly in meaning-oriented note taking (ESL M=4.46, EFL M=4.27, t=-2.01, p=.045) but there is no significant difference in usage-oriented note taking. The significant difference on meaning-oriented note taking was most likely due to the ESL students' encountering and looking up more new words in their studies and daily interactions than their EFL counterparts.

Consolidation Strategies

After the initial learning of a word, learners can use various strategies such as repetition or practice to consolidate and anchor newly learnt words in their mind. Discussed in this section is the use of rehearsal strategies, encoding strategies and activation strategies by the students involved in this study.

Rehearsal Strategies

Rehearsal strategies subsume three strategies, namely oral repetition, visual repetition, and list learning. The independent samples t-test results in Table 6 show that the ESL students were significantly different from the EFL ones over the use of all the three rehearsal strategies. The EFL students reported more use of wordlists (ESL M=3.73, EFL M=3.99, t=2.84, p=.005), oral repetition (ESL M=4.14, EFL M=4.68, t=5.05, p=.000) and visual repetition (ESL M=3.70, EFL M=4.42, t=6.76, p=.000) than the ESL students. This finding clearly points to the conclusion that the EFL students make more use of rote learning strategies than their ESL counterparts.

Encoding Strategies

Encoding strategies include six items and the independent samples t-test results indicate that the ESL and the EFL students were significantly different over four of them. The two groups differed significantly over the use of word-structure knowledge (ESL M=4.49, EFL M=3.85, t=5.67, p=.000), semantic encoding (ESL M=4.40, EFL M=3.92, t=4.16, p=.000), and contextual encoding (ESL M=4.88, EFL M=4.22, t=6.40, p=.000). The difference in the use of association (ESL M=4.03, EFL M=4.23, t=1.99, p=.047) is at the borderline of the significance level. However, the differences in visual encoding and auditory encoding did not approach statistical significance level set at .05.

By comparison, the ESL students reported more use of word-structure knowledge, semantic encoding, and contextual encoding while their EFL counterparts reported more use of association, visual encoding and auditory encoding. The ESL students used more word-structure knowledge and semantic encoding because relative to their EFL peers, they had bigger vocabulary stock and better knowledge of word structures (Goh & Liu, 1999). Some of the vocabulary exercises they did were designed based on word structure knowledge and semantic classification, which might have raised their sense of the above aspects. With regard to the significant difference in the use of contextual encoding, it may be due to the ESL students' using English more both in and outside classroom and thus they feel they learn words better by putting them in specific contexts of use.

A plausible interpretation for the EFL students' greater use of association, visual encoding and auditory encoding is the way new words are presented in the Chinese students' English textbooks, i.e. new English words listed after the texts and glossaries with Chinese equivalents attached at the back of the textbooks as appendices. Besides, there are exercises in the textbooks which require the students to use newly learnt words to translate Chinese sentences into English or vice versa; there are also exercises requiring the students to distinguish groups of new words that share similar parts in spelling; besides, the differences in strategy use partially result from the ubiquitous commercial books available in China teaching the EFL students how to memorize new vocabulary by associating English words to Chinese words, objects, ditties, etc. In addition, while Singapore is partially westernized due to its colonial history and its particularly close links with western countries, the stronger influence of traditional Chinese culture in China that stresses hard work, effort, and perseverance also plays a part in shaping the EFL students' learning strategies. All these dispose the EFL

students to adopt the strategies of association, visual encoding, and auditory encoding in their vocabulary learning.

Activation Strategies

The results in Table 6 indicate that the ESL and the EFL students were significantly different over the use of activation (ESL M=4.73, EFL M=4.13, t=6.03, p=.000), with the ESL students reporting more use than the EFL ones. The divergence in the strategy employment was most likely due to the fact that the ESL students had many more opportunities than their EFL peers to apply what they picked up either intentionally in the classroom or incidentally outside the classroom. For the ESL students, English was the language of instruction in classroom and they had more interaction among themselves than do their EFL counterparts. After the class, the use of English in daily life gave also the ESL students plenty of chances to activate the target language.

PEDAGOGICAL IMPLICATIONS

The implications based on the findings in this study are particularly relevant to language learning and research in general, but to EFL Chinese secondary students' English learning in particular.

1. Training EFL learners to guess from context. One of the findings in this study is that the ESL students use wide context more frequently than the EFL students as clues to guess at the meaning of unfamiliar words. This is, on one hand, probably because the ESL students have more language knowledge and develop better language schemata, which are available to them than the EFL students. On the other hand, it relates to the fact that reading comprehension strategies including skimming and/or guessing from context are neither taught nor explained in the EFL students' classrooms (Wang, 2007). Hence, the EFL students need to be given instruction on how to deal with unknown words they are likely to encounter elsewhere such as in reading other than in a word list.

2. Simulating language learning circumstance for EFL students. For the EFL students who are less aware of what different strategies the ESL students use in their English vocabulary learning, one of the possible ways to simulate the language learning circumstance where strategies used by the ESL students are expected to emerge among the EFL students is that native teachers of English should be allowed to choose textbooks for use in their classes. For example, as far as L2 vocabulary learning is concerned, there is a range of books available, which gives a fresh insight into how L2 vocabulary could be learned (e.g. McCarthy & O'Dell, 1994; Nation, 1994).

These books often provide detailed information about second language vocabulary learning which is generally unavailable in English textbooks currently used by the secondary students in China. Taking into account the difficulty to change the Chinese context of English language teaching by Chinese teachers of English alone, it is of vital importance for the increasing number of native teachers of English to use such vocabulary books as those referred to above and make their students aware of a wide range of vocabulary learning strategies at secondary school level.

It must be admitted here that it is difficult to predict, given the current state of language learning strategies research, what will be good or bad strategies to use or to recommend (Gu, 2003b; McDonough, 1999). It is reasonable, however, that teachers should introduce the variety of strategies hitherto unknown to their students and let them experiment with different types of strategies so that they can judge for themselves whether a particular strategy or a combination of strategies will be effective for their second language vocabulary learning.

The human ability to assimilate ideas that are radically different from present experience seems to be severely limited (Bialystok, 1985, p. 259). Research shows, for example, that Asian students who are so accustomed to word list learning of second language vocabulary are reported to be reluctant to abandon the habit of rote-memorization strategies (O'Malley, 1987). Language teachers need to be aware that some strategies which are deeply ingrained in second language learners' belief in language learning are not to be discounted but to be supplemented by other strategies that may help learners to facilitate their own second language vocabulary learning.

3. Students should be taught proper vocabulary learning strategies. To achieve a steady growth of vocabulary and a long-term retention, the teacher and the student should work together as partners. The teachers provide good guidance while the students adopt proper learning strategies. Nation (1993, pp. 126-127) sums up four roles that the teacher can play in vocabulary growth. The most important role of the teacher is to ensure that the teacher and the learner's efforts are directed towards the vocabulary and the type of learning that provides the best return. Strategically, an effective way of producing rapid vocabulary growth will be through extensive reading because reading leads to multiple-encounters with words in a variety of meaningful contexts (Nagy & Herman, 1987, p. 31). In this light, the students should be encouraged to read extensively. It is far from adequate to just cover the textbook intensively. Second language learners, especially the EFL one, should be guided to read newspapers, periodicals, simplified English novels, and then original novels. Though the growth obtained in this manner is slow, what they gain will not be easily lost. Vocabulary is easier

to learn in contexts than in isolated word lists in that such meaningful contexts permit this more complex and deeper cognitive processing, which enhances storage in memory (Stevick, 1976, p. 30). Moreover, it is only after experiencing a word in its many contexts that one gets a complete understanding of its meaning.

CONCLUSION

The findings in this study have so far confirmed that PRC-based students report greater use of strategies of memorization/rehearsal types, and Singapore-based students report greater use of social interaction and daily communication strategies. The findings suggest that language environments, both in and out of the classroom, 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.

Due to the scope and the methodological constraints of this study, we excluded some other potentially important learner difference variables, such as motivation and language aptitude. Research and theorizing on these areas has increased in recent years. The role of motivation in language learning has been studied since the 1960s and the employment of learning strategies has been found associated with motivational intensity (Djigunovie, 2001). As for language aptitude, researchers in both second language acquisition and cognitive psychology now seem to believe that language aptitude is a kind of developing expertise rather than a fixed innate talent (Gan, Humphreys, & Hamp-Lyons, 2004). The construct of foreign language aptitude remains to be researched in depth, and what's more important, what role language aptitude plays in learning achievement at different learning stages, in different sociocultural contexts, or both, should be a very promising avenue to be explored.

Nevertheless, it should be noted first of all that what is found to be practiced significantly more frequently by ESL students may not work well for EFL students, and vice versa. Strategies more often used by ESL learners may not be good ways for facilitating EFL vocabulary learning. The effectiveness of strategies in different contexts of cultural diversity depends on them being recast in different terms to suit other conditions of relevance (Ho & Wong, 2003, p. xxxvi). Thus, a learner's employment of learning strategies is determined not only by his/her 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 be found to be less useful in another context (Gu, 2003b; Wang, 2006). But to expand their vocabulary

size, all ESL and EFL learners need to adopt proper ways and methods. Extensive reading, listening to radio and other learning strategies all provide chances to recall and reinforce their knowledge of encountered words and chances to come across new ones.

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Appendix: Vocabulary Learning Questionnaire (VLQ)

Section 1: Personal Information

1. Name of school: _____ Grade: _____
2. Sex: Male/female Age: _____
3. My last year-end English score:_____
4. Rank of English proficiency in class: Please circle the choice.
   A. very poor B. poor C. average D. good E. very good

Section 2: Beliefs about Vocabulary Learning

Importance Perception

1. Vocabulary is very important to the learning of English.
2. Knowing words is the key to understanding and being understood.
3. Vocabulary is the most important component for learners.

Difficulty Perception

1. Learning English vocabulary is difficult.
2. I have much difficulty learning vocabulary.
3. It involves much effort to learn vocabulary.

Knowing a Word

1. Knowing a new word means knowing more than its pronunciation and spelling.
2. Knowing a new word involves knowing what words and set phrases usually go with it.
3. The least a learner should know about a word is its form, its meaning, and its basic usage.

Words should be Memorized.

1. Once the English equivalents of all Chinese words have been remembered, English is learned.

2. The best way to remember words is to memorize word lists or dictionaries.
3. Remembering the meanings of a word is an end in itself.
4. A good memory is the best way to remember words.
5. Repetition is the best way to remember words.
6. You can only acquire a large vocabulary by memory of individual words.

Words Should be Learned Through Use.

1. When you come across a word several times in different contexts, you will know what it means.
2. Words should be put to use before they are finally learned.
3. Using English (listening, speaking, reading, and writing) is more important than memorizing words.

Learning Words from Reading

1. The meanings of a considerable number of words can be picked up through reading. 2. One can expand his/her vocabulary simply through reading a lot.
3. Guessing words in context is one of the best ways to learn vocabulary.

Section 3: Sources of Vocabulary Learning
Classroom Learning

1. I pick up most of my new English words from my English classes.
2. My teacher often sets aside time to teach us vocabulary.
3. My teacher deals with vocabulary as part of comprehension lessons.
4. I get most of my opportunities to learn vocabulary in my English classes.

Independent Learning

1. I pick up most of my vocabulary from reading books.
2. I pick up most of my vocabulary from reading magazines.
3. I learn vocabulary mostly from reading newspapers.
4. I try my best to memorize new words I come across in after-class reading.
5. I get most of my opportunities to practice English vocabulary in activities outside my English classes.
6. I often try to imitate the words and expressions that good writers (including my classmates) use.

Daily Communication

1. I pick up most of my vocabulary from daily use, such as listening and speaking in English.
2. I learn words and phrases from the people I talk with.
3. I pick up most vocabulary from English-language media, such as English TV programs, news broadcasts, songs, newspapers etc.

Section 4: Vocabulary Learning Strategies
Metacognitive Strategies

Selective Attention

1. I know when a new word or phrase is essential for adequate comprehension of a passage.
2. I know which words are important for me to learn.
3. I have a sense of which word I can guess and which word I can't.
4. When I meet a new word or phrase, I have a clear sense of whether I need to remember it.
5. I know what clues I should use in guessing the meaning of a particular word.
6. I know which words can be skipped and passed in reading.

Self-Initiation

1. Besides textbooks, I look for other readings that I am interested in.
2. I wouldn't learn what my English teacher doesn't tell us to learn.
3. I only focus on things that are directly related to examinations.
4. I wouldn't care much about vocabulary items that my teacher does not explain in class.
5. I use various means to make clear vocabulary items that I am not quite clear of.
6. I try to use English-language media (songs, movies, and newscasts, newspapers etc.) as much as possible.

Cognitive Strategies

Wider Context

1. I make use of the logical development in the context (e.g., cause and effect) when guessing the meaning of a word.

2. I make use of my common sense and knowledge of the world when guessing the meaning of a word.
3. I check my guessed meaning against the wider context to see if it fits in.100. I make use of my knowledge of the topic when guessing the meaning of a word.
4. I look for any definitions or paraphrases in the passage that support my guess about the meaning of a word.

Immediate Context

1. When I meet a new word in a sentence, I use the familiar words in the sentence to infer the meaning of the new word.
2. I make use of the grammatical structure of a sentence when guessing the meaning of a new word.
3. I make use of the part of speech of a new word when guessing its meaning.
4. I check my guessed meaning against the immediate context to see if it fits in.
5. I analyze the word structure (prefix, root, and suffix) when guessing the meaning of a word.

Dictionary Type

1. I look up new words in an English-English dictionary.
2. I look up new words in an English-Chinese dictionary.
3. I look up new words in a Chinese-English dictionary.

Dictionary Strategies for Comprehension

1. When I see an unfamiliar word again and again, I look it up.
2. When I want to confirm my guess about a word, I look it up.
3. When not knowing a word prevents me from understanding a whole sentence or even a whole paragraph, I look it up.
4. I look up words that are crucial to the understanding of the sentence or paragraph in which it appears.

Extended Dictionary Strategies

1. I pay attention to the examples of use when I look up a word in a dictionary.

2. I consult a dictionary to find out about the subtle differences in the meanings of English words.
3. When I want to know more about a word that I already have some knowledge of, I look it up.
4. I consult a dictionary to find out about the subtle differences in the meanings of English words.
5. When looking up a word in the dictionary, I read sample sentences illustrating various meanings of the word.
6. When I look up a word in a dictionary, I also read the information on related words, such as synonyms and idiomatic expressions.

Looking-up Strategies

1. If the new word is inflected, I remove the inflections to recover the form to look up (e.g., for created, look for create).
2. If the new word I try to look up seems to have a prefix or suffix, I will try the entry for the stem.
3. If the unknown word appears to be an irregularly inflected form or a spelling variant, I will scan nearby entries.
4. If there are multiple senses or homographic entries, I use various information (e.g., part of speech, pronunciation, style, collocation, meaning, etc.) to reduce them by elimination.
5. I try to integrate dictionary definitions into the context where the unknown word was met and arrive at a contextual meaning by adjusting for collocation, part of speech, and breadth or meaning.

Social Interaction

1. I try to pick up the new words I come across in daily communication.
2. I try to pick up the new words encountered in activities both in and out of school.
3. I take notice of new vocabulary encountered in English TV programs, news broadcasts, songs and newspapers and learn them.

Meaning-Oriented Note-Taking

1. I make a note of the meaning of a new word when I think the word I'm looking up is commonly used.
2. I make a note when I think the word I'm looking up is relevant to my personal interest.
3. I write down the English synonym(s) or explanations of the word I look up.

4. I write down both the Chinese equivalent and the English synonyms of the word I look up.

Usage-Oriented Note-Taking

1. I make a note when I see a useful expression or phrase.
2. I take down the collocations of the word I look up.
3. I take down grammatical information about a word when I look it up.
4. I note down examples showing the usages of the word I look up.

Use of Word Lists

1. I make vocabulary lists of new words that I meet.
2. I go through my vocabulary list several times until I am sure that I do not have any words on that list that I still don't understand.
3. I make vocabulary cards and take them with me wherever I go.
4. I make regular and structured reviews of new words I have memorized.

Oral Repetition

1. When I try to remember a word, I repeat it aloud to myself.
2. Repeating the sound of a new word to myself would be enough for me to remember the word.
3. When I try to remember a word, I repeat its pronunciation in my mind.

Visual Repetition

1. When I try to remember a word, I write it repeatedly.
2. I memorize the spelling of a word letter by letter.
3. I write both the new words and their Chinese equivalents repeatedly in order to remember them.

Association/Elaboration

1. I remember a group of new words that share a similar part in spelling.
2. I associate a group of new words that share a similar part in spelling with a known word that looks or sounds similar to the shared part.
3. I create a sentence in Chinese when I link a new word to a known word.
4. I attach physical sensations to certain words (e.g., stinking) when I try to remember them.

5. I help myself remember a word by associating it to a word in my mother tongue.

Visual Encoding

1. I act out a word in order to remember it better.
2. I create a mental image of the new word to help me remember it.
3. I visualize the new word to help me remember it.
4. I associate a new word to a known English word that looks similar.

Auditory Encoding

1. I remember the words that sound similar.
2. I remember the words that are spelled similarly.
3. I associate a new word with a known English word that sounds similar.

Use of Word-Structure

1. I analyze words in terms of prefixes, stems, and suffixes.
2. I deliberately study word-formation rules in order to remember more words.
3. I memorize the commonly used stems and prefixes.

Semantic Encoding

1. I try to create semantic networks in my mind and remember words in meaningful groups.
2. When I meet a new word, I search in my memory and see if I have any synonyms and antonyms in my vocabulary stock.
3. I group words into categories (e.g., animals, utensils, vegetables, etc.).

Contextual Encoding

1. I remember the new word together with the context where the new word occurs.
2. When I try to remember a word, I remember the sentence in which the word is used. 3. I learn words better when I put them in contexts (e.g., phrases, sentences, etc.).

Activation Strategies

1. I try to read as much as possible so that I can make use of the words I tried to remember.
2. I make up my own sentences using the words I just learned.
3. I try to use the newly learned words as much as possible in speech and writing.
4. I try to use newly learned words in real situations.
5. I try to use newly learned words in imaginary situations in my mind.

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FIGURE 1: Differences in vocabulary learning strategies between EFL and ESL students (p<.05)

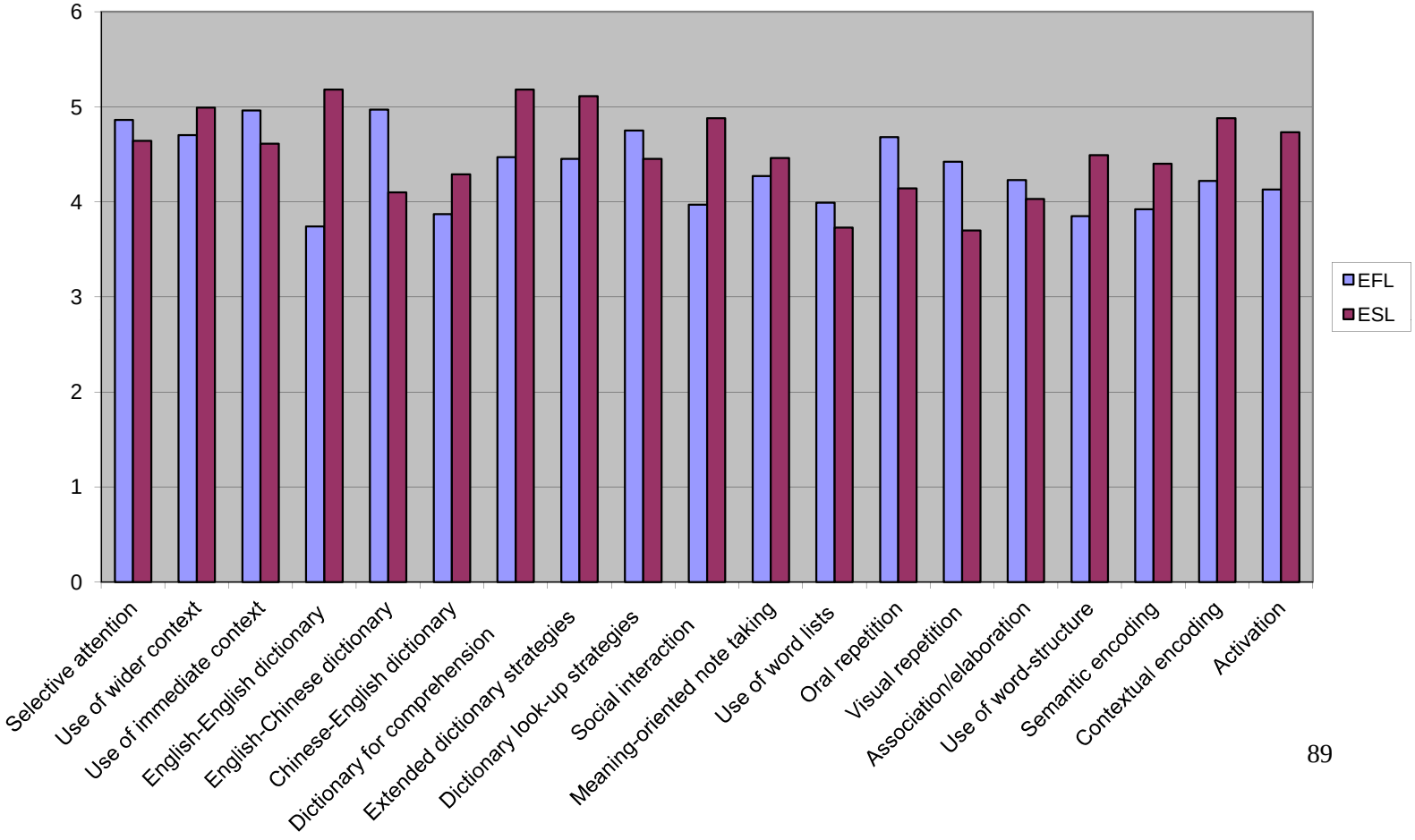

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Fig 3 Vocabulary learning strategies of EFL and ESL students

	EFL	ESL
Selective attention	4,86	4,64
Use of wider context	4,7	4,99
Use of immediate context	4,96	4,61
English-English dictionary	3,74	5,18
English-Chinese dictionary	4,97	4,1
Chinese-English dictionary	3,87	4,29
Dictionary for comprehension	4,47	5,18
Extended dictionary strategies	4,45	5,11
Dictionary look-up strategies	4,75	4,45
Social interaction	3,97	4,88
Meaning-oriented note taking	4,27	4,46
Use of word lists	3,99	3,73
Oral repetition	4,68	4,14
Visual repet	4,42	3,7
Association/	4,23	4,03
Use of word-structure	3,85	4,49
Semantic encoding	3,92	4,4
Contextual encoding	4,22	4,88
Activation	4,13	4,73

Table 5.12B: Vocabulary learning strategies acro

	Sec. 4	JC1	JC2
Selective attention	4,38		4,96
Wider context	4,68	5,12	5,18
English-English dictionary		4,86	5,61
English-Chinese dictionary	3,39	4,9	3,97
Chinese-English dictionary	5,24	4,08	3,6
Dictionary look-up strategies	4,19		4,67
Use of word lists		4,03	3,46
Oral repetition	4,07	4,56	3,79
Visual repetition	3,46	4,21	3,42
Association/elaboration		4,32	3,85
Word-structure	4,13	4,73	4,61
Semantic encoding	4,66		4,03

ss levels of education