



## An Investigation Into Vocabulary Learning Strategies of Senior High School Students

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### Abstract

This study aims to provide an empirical study about vocabulary learning strategies possessed by senior high school learners in the Chinese context. With 100 senior students of Guanghan high school as the subject, this research is tended for a quantitative research into senior high school students' preference for vocabulary learning strategies. Data are collected and processed by means of SPSS14.0. Based on the results, this paper suggests that teachers should help learners to build positive motivation, integrate more strategy training into English classes and encourage students to systematize their own learning strategies instead of using these strategies unconsciously or unsystematically.

**Key words:** Senior high school students; Vocabulary learning strategies; Metacognitive strategies; Cognitive strategies; Social/affective strategies

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### INTRODUCTION

Vocabulary takes a dominant position in a language and plays a vital part in language acquisition. To some extent, the acquisition of the language system is the acquisition of vocabulary system. Vocabulary learning, which is a mainly part of language learning strategies, is essential in English learning. It's commonly acknowledged that

vocabulary learning poses a bottle neck to senior high school students' English performances, so the introduction and application of vocabulary learning strategies come their way. With an aim to cast some light on effective vocabulary learning and sufficient strategy use, this research made an investigation about high school students' using situations of vocabulary learning strategy.

As McCarthy (1990) stated "No matter how well the student learns grammar, no matter how successfully the sound of L2 are mastered, without words to express a wider range of meanings, communication in an L2 just cannot happen in any meaningful way".

However, Coady and Huckin (1997) pointed out that too much attention was paid to grammar, phonology and discourse study and much less is known about the nature of second language learners' lexicon. Since 1980s, vocabulary had drawn researchers' interest within the mainstream of L2 acquisition. It has been realized that many of learners' difficulties, both receptive and productive, result from an inadequate vocabulary, and even when they are at higher levels of language competence and performance, they still feel in need of learning vocabulary (Laufer, 1986; Nation, 1990). The development and research of vocabulary learning strategies are deeply influenced by the language learning strategies and the literature on learning strategies on second language acquisition emerged from a concern for identifying the characteristics of effective learners.

As a matter of fact, to most Chinese students, vocabulary learning is the first major problem they meet in English study; vocabulary has long been their top concern on which they spend a lot of time. In this sense, students at all levels need guidance on how to learn vocabulary effectively and efficiently. Also, it is necessary to explore what learning strategies they use in their English learning process. The present study provides some useful data for further researches and gives some suggestions to the high school learners and teachers.

## 1. SOME BASIC CONCEPTS OF THE STUDY

### 1.1 Language Learning Strategies

In the past 30 years, second language learning strategies researchers explore learning strategies from different aspects; there are various definitions and classifications. Rubin (1987) believes that the learners themselves construct and direct role in the learning process through using the learning strategies, aimed at promoting learners' language development strategies. Oxford (1990) made a definition of learning strategies: "The learner use strategies to make learning easier, faster, more autonomous, more effective and more easily applied to new scenarios taken some concrete actions." Ellis (1994) believes that learning strategy is a mean or a step for the development of interlanguage, learning strategy research can reveal how learners learn a second or foreign language. Cohen (1998) defines learning strategies as learners have a conscious or semi-conscious behavior and mental activity, these internal and external activities with clear objectives. Chamot (2004) believed that learning strategy is the learners used in order to optimize the learning process, strengthening language knowledge and information.

Chinese scholar Wen (1995) and Lu (2001) also gave the definition of learning strategies. English Curriculum Standards (Ministry of Education of the People's Republic of China, 2003) define the definition of learning strategies: learning strategies refer to various actions taken by the students to learn and use language effectively.

### 1.2 Classifications of Language Learning Strategies

According to the various definitions of language learning strategies, there exists diversity of classifying learning strategies. Many researchers (Rubin, 1981; Oxford, 1990; O'Malley & Chamot, 1990; Cohen, 1998) did the researches on identifying and classifying of learning strategies.

O'Malley and Chamot (1990) distinguished three major types of learning strategies on the basis of information processing theory: metacognitive strategies, cognitive strategies and social/affective strategies.

Metacognitive strategies which are described as high order execution skills mean the planning for learning, thinking about learning process, monitoring of one's production or comprehension and evaluating of learning after an activity is completed. It can be divided into an advance organization, direction attention, selective attention, self-management, advance preparation, self-monitoring, delayed production and self-evaluation.

Cognitive strategies are more limited to particular learning tasks and closely connected to cognitive process which includes repetition, resourcing, directed physical response, translation, grouping, note-taking, deduction,

recombination, imagery, auditory representation, keyword, contextualization, elaboration, transfer and guessing. This kind of strategy operates directly on incoming information, manipulating it in ways that enhance learning.

Social strategies are also called affective strategies which involve either interaction with another person or ideational control over affect in order to complete a task. In a word, this kind of strategy deals with social mediating activity and transacting with others and it includes cooperation, question for classification and self-talk. Researches in metacognitive and cognitive learning strategies suggest that transfer of strategy training to new tasks can be maximized by pairing cognitive strategies with appropriate metacognitive strategies.

In this research, we adopt O'Malley and Chamot's classification, in general, the metacognitive refer to the strategies for overviewing the process of vocabulary learning, for taking steps to efficiently plan and regulate the learning process, for attending to the keywords. In general, it can be applied by students to control and evaluate their own learning and to have an overview of their learning process. In addition, cognitive strategies are directly involved in learning activities and social/affective strategies involving learners' social activity and transaction.

### 1.3 Vocabulary Learning Strategies

In the process of identifying and categorizing language strategies, many studies dealt indirectly with strategies specifically applicable to vocabulary learning, as O'Malley and Chamot (1990) note: "Training research on learning strategies with second language has been limited almost exclusively to cognitive applications with vocabulary tasks."

Vocabulary learning strategies refer to any kind of approaches or techniques that learners adopt to cope with vocabulary learning both consciously and subconsciously. Therefore, vocabulary learning strategies could be any factors which affect this broadly-defined process. Hereby, in this paper, vocabulary learning strategies can refer to a wide spectrum of strategies used as part of on-going process of vocabulary learning. It contains Rote-learning, Keyword, Association, Grouping, Context, Guessing, Dictionary, Application, Affixation and so on.

The famous British linguist Wilkins said; "If there is no syntax, on one can express a lot of things; if there are no words, people cannot express anything." The vocabulary is not only the formation of language materials, but also the content of the corresponding culture. Vocabulary learning plays a critical role in the whole process of language learning; vocabulary sustains language pronunciation, grammar, discourse, is the building block of language and also formed the basis of all language skills.

As for the students of Grade 2 in senior high school, there is a positive correlation between the overall vocabulary learning strategy use and their English proficiency. The students only have a sufficient vocabulary

can they read and understand, and thus may provide for the writing of “comprehensible input”. In short, to grasp how much of the vocabulary to some extent, restrict the students’ use level of language ability, too limited vocabulary knowledge not only does not help to alleviate the burden on students, but also that students find the word too difficult to form the ability to use language.

## 2. METHODOLOGY

### 2.1 Research Questions

The current study attempts to find answers to the following questions:

- (a) What is the general situation of English vocabulary strategy use by the students in senior high school?
- (b) Which vocabulary learning strategies can help students learn vocabulary more effectively in their English learning?

### 2.2 Subjects

The subjects participating in the present study are one hundred students of Grade 2 from Guang Han High school in Guang Han, Sichuan province. The subjects are chosen due to the following two considerations: (a) Grade two senior high school students are selected for the reason that they may have established their individual learning styles after several years training in high school and they might have found the most effective vocabulary learning strategies for themselves. (b) The students of Grade 3 are busy in preparing for their college entrance examination.

### 2.3 Instruments

#### 2.3.1 Questionnaire Design

This questionnaire is mainly from the following two sources: Studies on the classification of learning strategies from O’Malley and Chamot (1990) and Wen (1996). Some quantitative and qualitative research on vocabulary learning, including Polizter and McGroart (1985), Ahmed (1989), Gu (1994) and Wu (1998). It contains four sections: Section 1 involves instructions in the questionnaire and asked about every respondent’s demographic information including gender; age and how many years they have learned English. Section 2 constitutes the main body of the questionnaire that involves various English vocabulary learning strategies. It contains 58 behaviors clustered into three major parts: metacognitive strategies, cognitive strategies and social strategies. Metacognitive strategies include: Organizational Planning, Self-monitoring, Self-evaluation and Selective Attention. Cognitive strategies were divided into Rote-learning, Grouping, Context (Contextual Encoding), Dictionary, Guessing (Contextual Guessing), Doing-exercises, Application, Association, Wide-reading and Passage-reciting, each of which was again subdivided into several specific micro strategies. To each statement, the participants are also asked to rate on a five-point

Likert scale with “1” stands for “Never or almost never true for me”, “2” stands for “Usually not true for me”, “3” stands for “somewhat true for me”, “4” stands for “Usually true for me” and “5” represents “Always or almost true for me”. Metacognitive strategies include four items, the first two items “Organizational planning” and “Self-monitoring” refer to organize vocabulary study, make, monitor the study plan, check and review regularly what has learned. “Self-evaluation” means to judge and evaluate how well you have carried out your plan and “selective attention” means pay special attention to some words, especially some keywords, interesting words and high frequency words. Cognitive strategies involve 10 items and each of these items contains some subcategories. Social/ affective strategies include two categories: “Affective control” and “Cooperation”. Section 3 consists of two open-ended questions relating to their vocabulary learning strategies:

- (a) What kind of strategies works best for you?
- (b) Besides the above strategies, do you use any other ones?

#### 2.3.2 Reliability and Validity of the Questionnaire

The reliabilities of the questionnaire are made in the following table, which included the major dimension in the questionnaire, the subcategories contained in the questionnaire, the number of items under each category and the internal consistency of the items within a variable by using the Statistics Package for Social Science (SPSS) after a pilot study.

**Table 1**  
**Reliability of the Questionnaire**

Dimensions and categories	No. of items	Alpha
<b>Metacognitive strategies</b>	<b>10</b>	
Organization planning	1	
Self-planning	4	0.7375
Self-evaluation	2	0.8239
Selective attention	3	0.6967
<b>Cognitive strategies</b>	<b>44</b>	
Context	3	0.7142
Wide reading	5	0.7343
Guessing	4	0.6973
Dictionary	7	0.6540
Grouping	4	0.7330
Rote-learning	8	0.6631
Doing-exercise	3	0.6850
Association	3	0.6310
Passage-reciting	2	0.6895
Application	5	0.7250
<b>Social/affective strategies</b>	<b>6</b>	
Affective control	4	0.6869
Cooperation	2	0.8437

As indicated in Table 1, overall reliability of the questionnaire is generally high; therefore, this questionnaire is reliable. As far as the validity of the questionnaire is concerned, it can be guaranteed it was mainly adapted from O'Malley and Chamot's work, which enjoy a relatively high validity since it reflects previous quantitative and qualitative research in this field.

### 2.3.3 Interview

The interview consists of five questions related to the students' response to the questionnaire such as "Have you ever made any vocabulary study plan?" "What kind of strategies do you usually adopt in learning words?" 50 subjects are selected among the 100 investigated students.

### 2.3.4 Data Collection

The study was conducted in June 2015. The questionnaires were delivered in Chinese to avoid the possibility of misunderstanding. Students were informed that the purpose of the survey was just to collect useful and reliable data for a study in VLS and their choices had no connection with their English examination scores, so they should give their choice conscientiously that really reflect their vocabulary learning. All the questionnaires were distributed during the participants' regular English classes and their teacher was also informed of the procedures of distribution before the survey. Students were given 30 minutes to finish the questionnaire. During the process, teachers had emphasized the written instructions, especially for the five-points rating scales stands for. All the questionnaires were collected within the set time.

The data in this study were collected through a questionnaire survey on their reports on actual use of vocabulary learning strategies. After all the data were collected, they were put into computer and processed by SPSS. The results are to be discussed later

## 3. RESULTS

As for metacognitive strategies, it is apparent that Selective Attention ( $M=3.66$ ,  $SD=0.94$ ) ranks the highest among the four categories. Following the Selective

Attention was Organizational Planning ( $M=2.78$ ,  $SD=1.01$ ), then Self-evaluation ( $M=2.65$ ,  $SD=0.99$ ) and Self-monitoring ( $M=2.46$ ,  $SD=0.93$ ). According to the data, the last three strategies are all less than 3, which indicate these strategies were not much employed by the students and were not used frequently by them in language studies. It is clear that not all metacognitive strategies had frequently adopted by high school learners. Although they wake up to the importance of vocabulary learning in the language studies, they still make little use of metacognitive strategies.

The dimension of cognitive strategies compasses ten categories and it is obvious that some of them were favored and widely adopted by the investigated students (see Figure 2).

Table 2 shows that among all the cognitive strategies, Guessing ( $M=3.65$ ,  $SD=0.76$ ) is the most popular strategy in their vocabulary learning. When encounter new words, they prefer to guess its meaning according to the meaning of the related sentence ( $M=3.62$ ,  $SD=0.95$ ), then followed by combining guessing with looking-up dictionary ( $M=3.35$ ,  $SD=1.10$ ), by analyzing words parts or structures ( $M=3.27$ ,  $SD=1.17$ ) and by interrelationship of the related sentence ( $M=3.15$ ,  $SD=1.07$ ). This result accords with the results of Schmitt and McCarthy (1997), Wen (1996) and Zhang Ye, which considered that combine guessing with looking-up dictionary was an effective way to learn new words. According to Schmitt and McCarthy (1997) "guessing from an unknown word's meaning from context has been widely promoted in the last decades as it has been seen to fit in more comfortable with communicative approach". Carter (1987, p.188) also mentioned: "The skills of guessing and of using contextual clues to make inferences are important, especially in reading in a foreign language and especially if the learner is to become more self-reliant." In addition, Gu et al. (1996) pointed out that

words acquired in this way can retain not only their referential meaning but also the syntactic, pragmatic, and even emotional information from their context. More important is that the vocabulary is no longer thought of as acquires as separated items; it is an integral part of discourse.

**Table 2**  
**Strategies Adopted by High School Learners**

Items		
<b>Organizational planning</b>	<b>2.78</b>	<b>0.73</b>
<b>Self-monitoring</b>	<b>2.46</b>	<b>0.71</b>
Check vocabulary learning methods to find the weak points	2.52	1.01
Adapt to effective vocabulary learning methods	3.01	1.09
Review newly-learned words in a set time	2.77	0.95
Check the mastery of the words	3.00	1.07
<b>Self-evaluation</b>	<b>2.65</b>	<b>0.91</b>
Evaluate through vocabulary learning methods' analyses	2.42	0.90
Evaluate through self-summarizing	2.76	1.05

To be continued

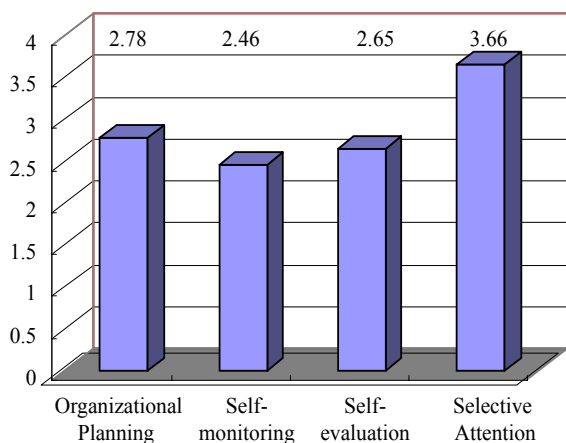
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Items		
<b>Selective attention</b>	<b>3.66</b>	<b>0.94</b>
Pay attention to key words	3.87	0.82
Pay attention to high-frequency words	3.89	0.89
Pay attention to interesting words	3.69	1.05
<b>Context</b>	<b>3.26</b>	<b>0.69</b>
Memorize emotional coloring of the words in the context	2.96	1.03
Memorize related sentences in the context	2.98	1.09
Memorize related phrases in the context	3.22	0.98
<b>Wide-reading</b>	<b>2.40</b>	<b>0.98</b>
Read newspapers and magazines	2.37	1.09
Read original words	2.12	1.04
Read simplified words	2.26	1.12
Read on lines	2.00	1.11
Watch movies and songs	3.32	1.12
<b>Guessing</b>	<b>3.65</b>	<b>0.76</b>
Guess by analyzing word parts or structures	3.27	1.17
Guess according to the meaning of the related sentence	3.62	0.95
Guess by interrelationship of sentence	3.15	1.07
Combine guessing with looking-up dictionary	3.35	1.10
<b>Dictionary</b>	<b>3.44</b>	<b>1.20</b>
Use English-Chinese dictionary	3.42	1.25
Use English-English dictionary	2.73	1.10
Use English-English-Chinese dictionary	2.78	1.14
Use Electronic Dictionary	3.34	1.29
Look up the dictionary to know the meaning of the word in the related passage	3.31	1.06
Look up the dictionary to know various meaning of this word	3.26	0.93
Look up the dictionary to know the usage of this word	2.79	1.05
<b>Grouping</b>	<b>2.31</b>	<b>0.98</b>
Group by affixes and roots	2.47	0.93
Group by semantic feature	2.61	0.98
Group by usage	2.65	1.02
Group by word form and pronunciation	2.78	1.06
<b>Do exercises</b>	<b>3.52</b>	<b>1.01</b>
Do multiple-choice vocabulary exercise	3.38	0.96
Use words to make up sentences	3.46	1.02
Use words to write diaries or compositions	3.20	1.00
<b>Rote-learning</b>	<b>3.42</b>	<b>0.84</b>
Use both oral and visual repetition	3.35	1.28
Use visual repetition	1.97	1.02
Use oral repetition	2.18	1.21
Memorize high-frequency words	2.91	1.12
Memorize interesting words	3.05	1.21
Memorize word-lists in the textbook	2.17	1.08
Memorize self-made word-lists	2.82	1.21
Memorize the words from the dictionary	1.60	0.74

To be continued

Continued

	Items	
<b>Association</b>	<b>2.95</b>	<b>1.03</b>
Associate by word structure	2.60	0.93
Associate by using Keyword method	2.99	1.14
Associate by form and spelling	2.79	0.98
<b>Passage-reciting</b>	<b>2.55</b>	<b>0.93</b>
Recite well-written passages	2.86	1.08
Recite sentences	2.86	1.04
<b>Application</b>	<b>3.19</b>	<b>1.05</b>
Talk with native speakers	1.96	1.13
Participate in English corners	1.78	1.03
Participate in group-discussion in class	3.07	0.96
Use words to make up a story	1.79	0.97
Apply words in conversation and composition	3.18	1.09
<b>Affective control</b>	<b>3.00</b>	<b>1.05</b>
Regulate emotion through talking with teachers	1.76	0.89
Regulate emotion through talking with parents or relatives	2.42	1.24
Regulate emotion through talking with friends	3.46	1.12
Encourage myself when meeting with troubles in vocabulary learning	3.78	1.09
<b>Cooperation</b>	<b>2.40</b>	<b>0.73</b>
Communicate with classmates to practice new words	2.17	0.89
Listen to and imitate words used by high-proficiency classmates	1.86	1.10



**Figure 1**  
**Strategy Use at Metacognitive Levels**

Doing exercise ( $M=3.52$ ,  $SD=1.01$ ) is also popular by high school students. Among the three choices, they prefer to use words to make up sentence ( $M=3.46$ ,  $SD=1.02$ ) than use multiple-choice ( $M=3.38$ ,  $SD=0.96$ ) or write diaries or composition ( $M=3.20$ ,  $SD=1.00$ ).

The next favored strategy is Dictionary ( $M=3.44$ ,  $SD=1.20$ ). The frequently used dictionary is English-Chinese Dictionary ( $M=3.42$ ,  $SD=1.25$ ) and the Electronic Dictionary ( $M=3.34$ ,  $SD=1.29$ ) while the English-English-Chinese Dictionary ( $M=2.78$ ,  $SD=1.14$ ) and English-English Dictionary ( $M=2.73$ ,  $SD=1.14$ ) are

less popular. As for the purpose of using the dictionary, most of the students look up the dictionary to know the meaning of the word in the related passage ( $M=3.31$ ,  $SD=1.06$ ) and to know various meaning of this word ( $M=3.26$ ,  $SD=0.93$ ) while look up the dictionary to know the usage of this word rank the last ( $M=2.79$ ,  $SD=1.04$ ). This result indicates its significantly important position among all the cognitive strategies. Just as Tomaszczyk (1979) mentioned, “bilingual dictionaries seem to be used much more extensively than monolingual dictionaries by L2 language learners”. On the other hand, although many English teachers do not assent to students using electronic dictionary for it lacks English definition or word usage, it is still welcomed by students for its convenience. According to William and Fredricka (1996), the use of a bilingual dictionary in a consistent and appropriate manner would appear to have a positive impact on vocabulary learning and reading development.

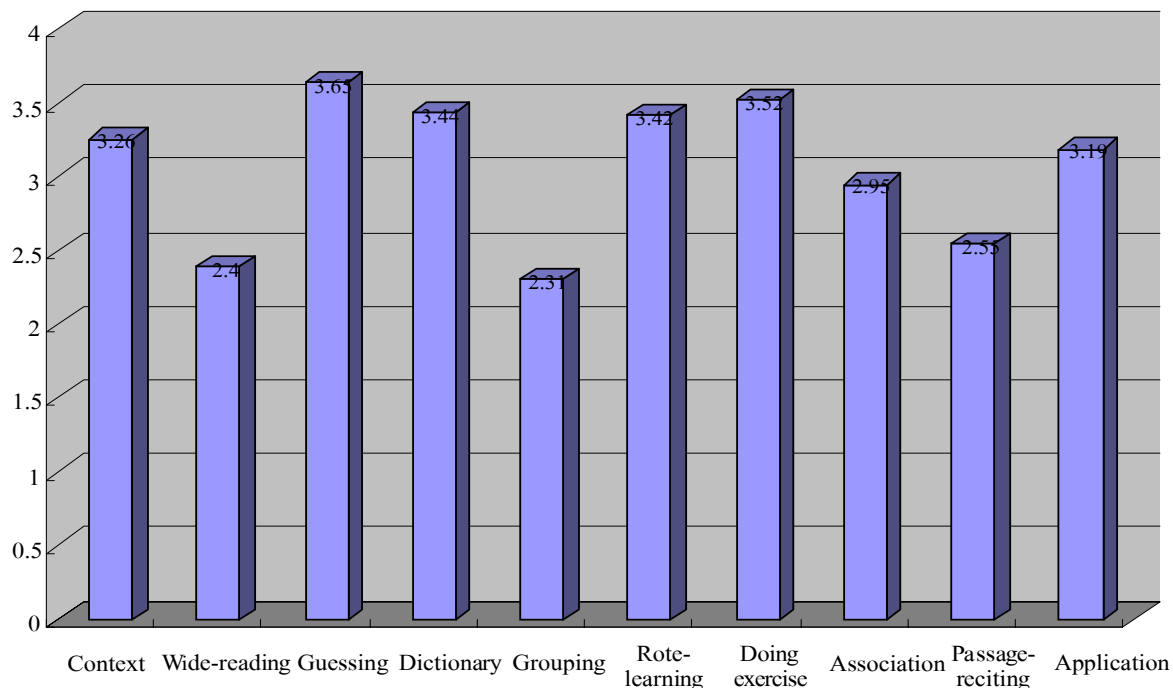
Table 2 shows that “rote-learning” strategy is favored by the subjects ( $M=3.42$ ,  $SD=0.84$ ). In this category, oral plus visual repetition ( $M=3.35$ ,  $SD=1.28$ ) ranks the highest. That suggests that most students prefer to commit the word into their mind by repeating it mentally or aloud accompanied by writing it down, with or without its Chinese equivalent. On the other hand, oral repetition ( $M=2.18$ ,  $SD=1.21$ ) and visual repetition ( $M=1.97$ ,  $SD=1.02$ ) are less favored, which indicates that students tend to choose easy, convenient ways to memory words.

It is consistent with O'Malley's view that learners often depend more on strategies that did not demand elaborative or active mental processing. What's more, Gu et al. (1996) pointed out that:

One of the first problems a foreign language learner encounters is how to commit a massive amount of foreign words to memory. And the first and easiest strategy people pick up and use naturally is, simply, repeating new words until they can be recognized.

As for the kinds of memorizing words, interesting

words ( $M=3.05$ ,  $SD=1.21$ ) is most popular, together with high-frequency words ( $M=2.91$ ,  $SD=1.12$ ) and self-made word list ( $M=2.82$ ,  $SD=1.21$ ), then followed by word-list in the textbook ( $M=2.17$ ,  $SD=1.08$ ) and the words from the dictionary ( $M=1.60$ ,  $SD=0.74$ ). This result is consistent with Wu and Wang's research (1998, p.55). However, this result is different from Gu and Johnson's (1996), for which suggested that students did not value rote learning as highly as others and perhaps the subjects of research are different.



**Figure 2**  
**Strategies Use at Cognitive Levels**

What's more, high school learners seem to use Context strategy ( $M=3.26$ ,  $SD=0.69$ ) while learning words. In the context, they prefer to memory words by related phrases ( $M=3.22$ ,  $SD=0.980$ ) than by related sentences ( $M=2.98$ ,  $SD=1.09$ ) and by the emotional coloring of the words ( $M=2.96$ ,  $SD=1.03$ ).

Application strategy is also favored by the subjects ( $M=3.19$ ,  $SD=1.05$ ). Although they prefer to use this kind of strategy, in their choice, the mean score is very low. Apply words in conversation and composition ( $M=3.18$ ,  $SD=1.09$ ) ranks the first place followed by group-discussing in class ( $M=3.07$ ,  $SD=0.96$ ), talk with native speakers ( $M=1.96$ ,  $SD=1.13$ ), make up a story ( $M=1.79$ ,  $SD=0.97$ ). Participate in English corner ( $M=1.78$ ,  $SD=1.03$ ) is the least popular activity. As for the next three strategies, the mean score is lower than 2, which suggests that learners seldom sought opportunities to practice and acquire new English words through English conversation English conversations with native speakers or classmates. It is not surprising

that the score is so low for learners get little exposure to such opportunities to learn English vocabulary in the current EFL environment in China. The following reasons can explain it. First, for the most Chinese high school students, they are heavy-laden because they have too schoolwork and there is little time left for them to talk with natives or to participate in English corners and such activities are thought as a waste of time. Even their English teacher gives them time to do group-discussion or story-telling, they prefer to memory English words or do grammar exercises which seem benefit them more in the test. It indicates that students have not found an application way to acquire words although they want to search for an effective way to.

The mean score of Wide-reading ( $M=2.40$ ,  $SD=0.98$ ), Association strategy ( $M=2.95$ ,  $SD=1.03$ ), Passage-reciting ( $M=2.55$ ,  $SD=0.93$ ) and Grouping ( $M=2.31$ ,  $SD=0.98$ ) are all below three, which mean that these four strategies were not much adopted by the high school students. Association strategies are not frequently used by high school learners;

this indicates that though association strategies have long been considered effective memorization strategies, they are not aware that a word is stored within a “web-like set of associations” that includes sounds, spelling and ideas (McCarthy, 1990). Of wide-reading, many of them prefer to watch English movies and songs ( $M=3.32$ ,  $SD=1.12$ ), which shows that the learners like to learn English in a more free and recreational way.

In sum, the rank order of most frequently used vocabulary strategies at cognitive level is: Guessing ( $M=3.65$ ,  $SD=0.76$ ), Doing exercise ( $M=3.52$ ,  $SD=1.01$ ), Dictionary ( $M=3.44$ ,  $SD=1.20$ ), Rote-learning ( $M=3.42$ ,  $SD=0.84$ ), Context strategy ( $M=3.26$ ,  $SD=0.69$ ), Application strategy ( $M=3.19$ ,  $SD=1.05$ ), Wide-reading ( $M=2.40$ ,  $SD=0.98$ ), Association strategy ( $M=2.95$ ,  $SD=1.03$ ), Passage-reciting ( $M=2.55$ ,  $SD=0.93$ ) and Grouping ( $M=2.31$ ,  $SD=0.98$ ).

With regard to Social/Affective strategies, Affective control ( $M=3.00$ ,  $SD=1.05$ ) is much adopted by them. Encourage oneself when meeting with troubles ( $M=3.78$ ,  $SD=1.09$ ) is the most popular strategy followed by Talk with friends ( $M=3.46$ ,  $SD=1.12$ ). While talk with parents or relatives ( $M=2.42$ ,  $SD=1.24$ ) and Talk with teachers ( $M=1.76$ ,  $SD=1.05$ ) ranks the last, which suggests that most of the students do not like communicating with their parents or teachers to solve their problems. On the other hand, Cooperation Strategies are not favored by them ( $M=2.46$ ,  $SD=0.73$ ). The mean scores of the two actives are lower than 3: communicate with classmates to practice new words ( $M=2.17$ ,  $SD=0.89$ ), listen to and imitate words used by high-proficiency classmates ( $M=1.86$ ,  $SD=1.10$ ).

#### 4. RELATED DISCUSSION

From the results of questionnaire, it can also be found that most subjects don't have a clear idea of using metacognitive strategies. During the interview, many subjects also confirmed that they don't know how to use metacognitive strategies in learning vocabulary effectively. The reasons for this perhaps come from two aspects: First, in English class of senior high school nowadays, metacognitive strategies are easily ignored by some English teachers, they put more attention to the cognitive strategy use, but seldom guide students to use metacognitive strategies; second, English vocabulary learning is often without proper guidance given by teachers, thus, students usually find it difficult to apply metacognitive strategies effectively. As Wen & Johnson (1997, p.39) mentioned that “The effectiveness of all language learning strategies is determined by the learners' management of these strategies” and O'Malley and Chamot (1990) stated that students without metacognitive approaches are essentially learners without direction or opportunity to plan their learning, monitor their progress

or review their accomplishments and future learning directions.

As far as cognitive strategies are concerned, the most popular cognitive strategies employed by them are “Guessing strategies” ( $M=3.65$ ). The reason why “Guessing strategies” was most frequently used due to the fact that the subjects come across too many new words in the process of English learning, because of the limited time, it is impossible for them to discover the meaning of each word, so they have to guess its meaning. Moreover, on account of some years' experiences of English study, they have formed the habit of guessing and acquired some effective methods of guessing, which are widely found in some reference books accessible to them. If they do not know a word, they may discover its meaning by guessing from their structural knowledge of the language, from a first language cognate, from context, or from other resources.

As to “rote-learning” strategies, the subjects get mean score of 3.42. Because high school learners are limited in their language proficiency so they have not found other effective strategies to acquire words instead of rote-learning strategies which seem to be the easiest way. In sum, in China, learning is still largely regarded as the digestion of a body of knowledge, and progress is seen by how much one can memorize and reproduce. As a natural consequence, a vast majority of students have to learn by means of memorization and rote learning, which are considered by the whole society as basic acquisition techniques. Under such a cultural circumstance they gradually become traditional, hard-working learners who believe in effort regardless of their study approach. For another, memorization only involves a direct mother-tongue equivalent with very little semantic coding and it proves quite useful for a short-time memory (Carter, 1998, p.93), so it is favored by Chinese high school students who must sit for various kinds of English examinations once a while.

The mean score of “doing exercise” strategies is 3.52 which indicates that high school learners much adopted to use these strategies. It is according to the current situation of Chinese education, which high school learners are heavy burden. They have so much exercises and tests to finish so as to get a high mark in the final college entrance examination, according to the interview, many high school learners reported that doing many exercises is the most helpful way to improve their scores, just as the old saying goes that practice makes perfect.

On the other hand, “grouping” strategies are helpful in committing a new word into memory by connecting the new words with the old one(s) to build up a personal word web. However, in this study, the mean scores of Grouping strategies are rather low among all the ten strategies for both the two groups. ( $M=2.31$ ). Among the three items, no item has the value of mean higher than 3.



Moreover, there are eight cognitive strategies whose mean scores above 3.00 for the subjects. It consists with O'Malley and Chamot' research (2001, pp.118-121) that beginning level students were able to identify more strategies than intermediate level students. Students with beginning level proficiency in English identified almost twice as many cognitive strategies as students with intermediate level proficiency.

In terms of vocabulary learning strategies at social/affective level, Affective Control ranks much higher than Cooperation ( $M=2.80$ ). The high value affective control demonstrates that learners are generally more positive with regard to developing self-confidence, self-encouragement, and reducing anxiety when encountering difficulties or failures in English vocabulary learning process. Cooperation activities rank rather low ( $M=2.40$ ), which indicates that learners seldom communicating with others to practice new words. Through the interview, we have found the reasons: for one thing, the subjects are born around the year 2000, most of whom are from one-child families in China and have developed a self-centered personality. They do not have much interest in cooperating with others and they consider that ask others help in the study will lose face. For another, they think memorizing vocabulary is their own business or learning is an activity best performed individually and it is foolish to ask teachers or others about learning vocabulary. Instead, they resort dictionaries if they need any help.

## CONCLUSION

This paper investigates the vocabulary strategy used by the students; the survey found that the frequency of vocabulary learning strategy use of high school students is not so high, the most favored specific types of learning strategies are "guessing", "doing exercise" and "dictionary". This indicates that students are still largely dependent on traditional learning methods. Objectively speaking, high school English teacher should help students cultivate the awareness of vocabulary learning strategy use as well as emphasize the importance of using metacognitive strategies; secondly, they should introduce the cognitive strategies in vocabulary teaching, help and guide students to use a variety of strategies effectively to improve the memory of words. Finally, English teacher can choose use affective/social strategies to train students. For example, cooperative learning is a good choice to help students become more autonomous and self-controlled. According to Lotan and Becton (1990), in working together to accomplish a task, group members need to plan, organize, make decisions, defend positions, resolve differences of opinions, solve problems, talk about learning, and undertake a number of higher order thinking skills and cognitive and metacognitive strategies which may be less available in whole group activities.

During the process of cooperative learning, students learn how to share materials and information and how to take advice from others. They build up a kind of friendship that allows them to work successfully with others in a cooperative way. However, many of the students interviewed are not familiar with cooperative learning. Therefore, arrange some cooperative learning activities and encourage students share their learning experiences and learning strategies in different of language learning is quite necessary for high school English teachers. All in all, just as Oxford argued that learners should be taught how to continue to improve their vocabulary on their own by reaching them appropriate vocabulary learning strategies in contrast to simply letting students learn vocabulary learning strategies in whatever manner they themselves may devise, teachers need to help learners to build positive motivation, encourage them to systematize their own learning strategies instead of using these strategies unconsciously or unsystematically, integrate more strategy training into English classes and take the responsibility to help them realize the nature of vocabulary as well.

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