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English Vocabulary Attrition of Young Chinese EFL Learners

Meifang Zhu

School of English and Education, Guangdong University of Foreign Studies

178 Waihuang Donglu, Guangzhou Higher Education Mega Center, Guangzhou, China.

Tel: 86-186-136-0240-8780 E-mail: tobelieveown@yeah.net

Jianping Xie (Corresponding author)

School of English and Education, Guangdong University of Foreign Studies

178 Waihuang Donglu, Guangzhou Higher Education Mega Center, Guangzhou, China

Tel: 86-186-135-8039-2269 E-mail: sallyxjp@gmail.com

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Abstract

Language attrition, the reverse process of acquisition, is part of the field of language acquisition, and vocabulary is the first and most frequent linguistic unit that suffers attrition. Vocabulary attrition of young L2 learners deserves special attention because a successful language learning experience at the early stage facilitates learners' later learning efficiency. However, research on young L2 learners' vocabulary attrition seem scant in the current literature. Such being the case, this study investigates 72 Chinese primary school EFL learners' English vocabulary attrition after an interval of a two-month summer recess through a repeated vocabulary test. Statistical results indicate that the young Chinese learners suffer significant attrition in vocabulary after the disuse of English during the holiday. In addition, verbs are found to be more vulnerable than nouns to attrition, but many words are partially remembered instead of being completely forgotten, as Retrieval Hypothesis proposed. Pedagogical implications for vocabulary teaching in Chinese primary schools and other similar L2 contexts are discussed.

Keywords: Vocabulary attrition, Young EFL learners, Verbs, Nouns

1. Introduction

Language attrition, which refers to the deterioration of certain language skills examined over time compared to those at a certain reference point (Hansen, 1999), is closely related to the field of language teaching and acquisition (Alharthi, 2015). Though being the reverse process of acquisition, language attrition is a part of the field of language acquisition (de Bot, 1999) and language attrition research is of vital significance in improving learners' language proficiency (Wang, 2014) as which provides another window on the dynamism of language (Hansen, 2001), sheds light on language teaching and learning (Oxford, 1982) and helps language learners and teachers find methods to better maintain the language (Wei, 2014).

Naturally, language attrition has become a popular topic of investigation among researchers since the past decades (Bardovi-Harlig & Stringer, 2010; Flores, 2010; Kouritzin, 1999; Yukawa, 1997, 1999). A number of variables of language attrition have been explored in the literature, such as age (Tomiyama, 2008), language proficiency (Li, 2008a) and linguistic representation (Li, 2008b; Yuan, 2011). Among these variables, linguistic representation (i.e., phonological, morphological and semantic representation of language), in particular, has received much attention. Researchers are interested in whether language, as a system, suffers attrition at different levels (such as words and syntax) at the same rate. For example, Flores (2014) found that attrition affected various morphosyntactic areas to different extent and vocabulary retrieval seemed to pose the greatest challenge.

Actually, vocabulary, as a fundamental unit of language, has been proved by the multitude of studies (e.g., Alharthi, 2015; Marefat & Rouhshad, 2007; Sheikn et al., 2017) to be the first and most frequent linguistic unit that suffers attrition (Zhong, 2003), which is more vulnerable to attrition than morphology and syntax (Tomiyama, 1999). For L2 learners, younger learners with initial proficiency are particularly susceptible to severe vocabulary attrition (Alharthi, 2015; Weltens, 1989). Beginners, especially young learners' language learning experiences and outcomes have great impacts on their affects (Arnold, 1999) and learning strategies (Hardi, 2014) on the future language learning. For instance, Arnold (1999) pointed out in his book that affective factors such as self-esteem and motivation can have great influences on learners' L2 learning and some of these affective factors, such as self-esteem, are especially significant for young children. Therefore, a successful language learning experience at the early stage facilitates learners' later learning and vocabulary attrition of young L2 learners deserves special attention. However, there seem to be little research on vocabulary attrition of young L2 learners (Li, 2014; Lou, 2013), especially of primary school students, as most previous studies focused on secondary school, college or university students (Yang & Tan, 2016).

In China, English is a compulsory course nationwide from the third year at primary school for Chinese students, who spend a great amount of time on learning English. During this early stage of English learning, vocabulary learning is the focus of teaching and learning. However, according to the researchers' personal teaching experience in Chinese primary schools, the young Chinese EFL learners seem to forget English words after a cease of classroom learning, especially after the regular break of summer or winter holiday. This may has something to do

with the young students' poor self-regulated learning ability and the teachers' neglect of the necessity of helping students maintain vocabulary knowledge after vocabulary instruction. Such being the case, more research on young Chinese EFL learners' English vocabulary after disuse in the summer/winter holiday is in need, so that teachers and learners can find coping measures to maintain the vocabulary knowledge and reduce the vocabulary attrition during the holiday recess. It is hoped that this study provide a better understanding of young Chinese EFL learners' English vocabulary attrition in the context of China as well as provide implications for English vocabulary teaching at the primary school level in China and other similar L2 contexts.

2. Literature Review

2.1 Language Attrition

Since the conference "Loss of Language Skills" was held in the University of Pennsylvanian in 1980, language attrition has gained great attention and importance in language research. In the conference, language attrition was first defined as "the loss of a first or second language or a portion of that language by individuals or a speech community" (cited from Lambert & Freed, 1982). In 2010, Bardovi-Harlig and Stringer defined language attrition in a broad way as: 'the loss of language as a result of contact with majority languages, loss of language by communities, or loss of language by individuals in both pathological and nonpathological settings' (Bardovi-Harlig, K. & Stringer, D. 2010, p.2). In the field of language acquisition, language attrition means "the natural (non-pathological) loss of a language in bilinguals... changes in the linguistic environment and termination of an instructional program may lead to attrition" (Kopke, 2004, p.15). A further distinction in language attrition can be made as losses in one's native language (L1) or losses in one's second, later-learned language (L2) (Ross, 2002). Therefore, in terms of the lost language and the environment in which it is lost, four areas of language attrition can be differentiated (Van Els, 1986): L1 loss in L1 environment, L1 loss in L2 environment, L2 loss in L1 environment, and L2 loss in L2 environment. This division has been proved to be very helpful for studies on L2 attrition, and according to this categorization, the present study is concerned with loss of L2 (English) in a L1 (Chinese) speaking environment.

Scholars have approached language attrition from different perspectives such as cognitive psychology, psychological linguistics and neurolinguistic theory of bilingualism (Yang & Tan, 2016), and some insightful hypothesis have been generated. Among them, Regression Hypothesis and Retrieval Fail Hypothesis were two theories that have been most discussed in the literature. Regression Hypothesis was first proposed by Ribot in 1880s, whose tenet is that attrition is the mirror image of acquisition, so when losing a language, one generally follows an order opposite to the stages of acquisition (Hansen, 2001). This means "the first items lost will be the ones that were acquired last" (Yoshitomi, 1992, p.295). Although researchers have not reached a consensus, this hypothesis has been supported by many research (e.g., Cohen, 1986; Hansen 1999; Hayashi, 1999; Tomiyama, 1999; Weltens, 1987). For instance, Hansen and Chen (2001) studied English-speaking adult learners of Japanese and of Chinese to compare their L2 acquisition and attrition sequences of syntax and

semantics. The results confirmed the hypothesis and showed that the attrition sequence was generally the reverse process of that of the L2 acquisition.

The other Retrieval Failure Hypothesis views forgetting not as a loss of information, but as inaccessibility, so "the forgotten information is not gone, but has become inaccessible" which, when provided with the right clue, "can be successfully retrieved" (Loftus, 1976, P. 78). For example, one can recognize a word when he/she sees or hears it, but it wouldn't be able to retrieve the word during production because of the lack of enough cues (Ecke, 2004). In terms of vocabulary attrition, Cohen (1986) held a similar idea that there are two processes involved in vocabulary attrition and in the first process "all memory associations are intact" but "the desired association is blocked and inaccessible" while in the second process "the vocabulary is forgotten but not lost" (p.143). De Bot and Welten (1995) also stated in their study that knowledge once acquired is never lost and it is the availability of lexical elements decreases over time through non-use. Therefore, learning strategies such as relearning can help maintain language proficiency and avoid retrieval deficiency (Hansen et al., 2002; Tomiyama, 2008).

Although the two hypotheses have contributed to our understanding of language attrition, more studies are needed to further verify their propositions. For instance, learners' cognitive psychological and neurolinguistic factors also play a part in the retrieval of knowledge (Yoshitomi, 1992) and we know that younger language learners' cognitive psychological maturity levels are different from that of adult learners. Therefore, by focusing on the young Chinese EFL learners' vocabulary attrition, this study will enable us to see whether their forgotten lexical knowledge are partially inaccessible and may be retrieved as the Retrieval Failure Hypothesis proposes.

2.2 L2 Vocabulary Attrition

As discussed earlier, vocabulary is prone to attrition, more so than other language subsystems such as syntax, phonology, and grammatical categories (Alharthi, 2015; Al-Hazemi, 2000; de Bot &Weltens, 1995). Generally speaking, vocabulary attrition entails temporary or permanent loss of knowledge about one or more of a word's characteristics, including form, position, function and meaning (Cohen, 1986). Vocabulary knowledge also refers to knowledge of other aspects of words such as frequency, collocations and registers (Nation, 1990). However, vocabulary attrition in most studies refers to the loss of vocabulary knowledge on the aspect of meaning (Bardovi-Harlig & Stringer, 2013) and the amount of vocabulary attrition is often examined by investigating whether participants have mastered the meanings of words. To carry on this tradition, the present study also examines vocabulary attrition on the decrease of vocabulary knowledge in meaning.

Over the past decades, there has been quite a proliferation of study on L2 vocabulary attrition, which mainly focuses on four aspects, namely, amount, speed, factors and properties of words (Yang & Tan, 2016). Regarding the amount of vocabulary attrition, conflicting findings have been reported. A few researchers found that vocabulary attrition was slight or not obvious (Tomiyama, 2000; Weltens, 1987), while the majority of researchers discovered that there were significant declines in participants' vocabulary (Alharthi, 2014; Marefat &

Rouhshad, 2007). For instance, Marefat and Rouhshad (2007) investigated adult Iranian learners' English vocabulary attrition and the results indicated that the learners experienced significant vocabulary attrition and that even learners who were continuing their English learning were susceptible to it.

In terms of the speed of attrition, some evidence show that a rapid decline of L2 vocabulary would occur soon after formal instruction (e.g., Abbasian & Khajavi, 2010; Alharthi, 2012; Bierling, 1990; Weltens, 1989). For example, Abbasian and Khajavi (2010) studied 210 Persian teachers' rate of vocabulary attrition in general and special vocabulary and found that the speed of attrition increased gradually as the year of non-exposure to English increased. Alharthi (2014) investigated 67 Arabian English graduate teachers and the results showed that soon after the formal instruction, drastic attrition was observed among the teachers' vocabulary knowledge and there was slight gain in the second year.

As for contributing factors of vocabulary attrition, Oxford (1982) reported that there is a high and positive correlation between personality factors, such as attitude, motivation and language maintenance, and language attrition. She also indicated that learners lose different aspects of second language throughout non-use intervals like summer recess. Learners' language proficiency is another factor and some studies suggested that advanced learners were more resistant to vocabulary attrition compared with low-proficiency learner (Asgari & Mustapha, 2012; Morshedian, 2008), whereas some (e.g., Marefat & Rouhshad, 2007; Olshtain, 1989) suggested that learners across different proficiency level suffer the same amount of attrition. Marefat and Rouhshad (2007), for instance, analyzed L2 vocabulary attrition of Iranian adult learners of English at four different proficiency levels and found that nouns underwent attritions regardless of the participants' language competence. The influence of learning strategies on vocabulary attrition is also studied. For example, Jiao (2014) investigated English major university students in China and found that in undergraduates' English vocabulary learning, learning strategy is a main factor affecting vocabulary attrition. In addition, word frequency and markedness are also contributive factors. Wei (2014) found that words such as apple, banana, tomato and orange that are more frequently used are less vulnerable to attrition than those less common and less frequently used words such as *lime*, *pineapple* and *grapefruit* for Chinese EFL learners. On the other hand, less marked words like horse would be maintained better than marked words like colt. Similarly, Hansen and Chen (2001) analyzed the attrition of numeral classifier systems of Japanese and Chinese and the results suggested that the less marked classifier is less affected in attrition.

Much research were conducted to find out whether different properties of vocabulary are equally vulnerable in the process of attrition and have produced inconsistent results. Li (2008a) studied the phonological, morphological and semantic representation of attrited words of Chinese freshmen and found that the pronunciation, the form and the meanings of words underwent a great amount of erosion. Concerning different parts of speech, some researchers (e.g., Cohen, 1989; Ross, 2002) argued that nouns are the easiest to be attrited while some (Kuhberg, 1992) said verbs tend to be forgotten earlier than other classes of words. Alharthi (2014) found that verbs and adjectives were more prone to attrition than

nouns. However, Jin and Ni (2011) found that word class was not a significant feature of vocabulary attrited. Wang (2014) investigated 130 Chinese students of non-English majors and the results also indicated that attrition occurred to all word classes and there was no significant difference among different word classes. Given these inconsistent findings, further research is in need to achieve better understanding.

Previous studies on L2 vocabulary attrition have provided rich information on the matter, including the amount of vocabulary attrition, the factors that can affect attrition process, the speed of vocabulary attrition over time and the properties that are attrited. However, current studies mainly focused on immigrants or returnees, and studies on Chinese EFL learner's English vocabulary attrition are still scant (Qiu, 2014). Among the few studies on Chinese learners, most focused on college students and few on primary and secondary schools (Yang & Tan, 2016). In addition, it is not difficult to notice that the reported results are inconsistent with each other. Such being the case, this study targets Chinese primary school Grade-5 students who learned English as a foreign language mainly at the classroom in the L2 context of mainland China, to explore their English vocabulary attrition after a summer recess. Specifically, this study aims to answer the following questions:

1) Does the young Chinese EFL learners' English vocabulary suffer any significant attrition after an interval of 60 days' disuse of English during the summer holiday?

2) For the young Chinese EFL learners, which are more susceptible to attrition, English nouns or verbs? Are there any significant differences in the amount of attrition between English nouns and verbs?

3. Methodology

3.1 Participants

The participants of the present study are 99 Chinese primary school students aging from 10-11 at the fifth grade of a school in Guangdong Province, China. They are students from two different classes taught by the same English teacher. One reason for the selection of the participants is that the students have learned English as a compulsory course in the school for three years and they have accumulated a certain amount of English vocabulary. In addition, the school of the participants is in an economically developed city where English learning is considered as highly important and popular as in many other cities in current China, so the participants are, in some sense, representative of the large amount of primary school EFL learners in China's urban areas. The third reason concerns the matter of accessibility. The present researchers have known the English teacher for years, who was also very interested in the research subject and willing to offer help in data collection.

3.2 Data Collection

In this study, a vocabulary test is the main instrument of data collection, which was administered twice with a two-month interval. The 30-item vocabulary test meant to examine the students' English vocabulary knowledge, focusing on 15 verbs and 15 nouns randomly selected from their most recent English textbook that had been taught in the latest semester.

Considering the English proficiency of the young participants and the fact that unfamiliar test might affect the participants' performance, the test was designed by modelling on the English tests they usually take in the school, which was made up of four common exercise types of vocabulary: the first one is word translation from English to Chinese; the second and third exercises are blank-fillings to complete sentences (section two) or phrases (section three) with pictures provided as clues; and the fourth exercise is a multiple-choice to complete the dialogue (e.g. *-How are you going to Beijing? -I'm going by* __.). These four exercises are aimed to examine the participants' vocabulary knowledge in meaning and spelling of the target words. To ensure the validity of the test, the test questions were first checked thoroughly by the students' English teacher who has five years' teaching experiences. A pilot-study was also carried out before the actual test. Ten students of the same grade in the school were randomly chosen and invited to complete the test, whose scores were examined to ensure that the scores students gained in the test did not deviate from their performances in their usual tests.

The data were collected in two separate stages with an interval period of two months. In the first stage which was towards the end of the spring term (the end of June 2018), all of the participants sat for the vocabulary test within 20 minutes. Before the test, the teachers kindly reminded the students to write down whatever they remembered about the words even if they cannot remember them completely. After the period of two months in the summer holiday, which was the second stage, the same students took the same vocabulary tests in the class in September, 2018. Right after the vocabulary test, the students completed a questionnaire which served to screen out those participants who attended whatever form of tutoring in English during the summer holiday since this study aims to examine the participants' vocabulary attrition after an interval of disuse of English. Finally, 72 out of the 99 participants were chosen for the study, whose vocabulary test results were actually used in the study.

3.3 Data Analysis

Since vocabulary knowledge means "knowing the meaning of a word" (Weltens & Grendel, 1993), when checking the students' answers in the test, the researchers gave a point to the students regardless of the grammatical correctness in the whole sentence or phrase. That is, if participants were able to provide the correct words in the context, they would be given a point. The total scores were double-checked by the students' English teacher and by the researchers. Then the general performance of the participants in the vocabulary tests at the two stages (before and after the summer holiday) was compared to generate answers to the first research question, that is, whether significant vocabulary attrition can be observed over the two stages. For the second research question, that is the amount of language attrition at the level of nouns and verbs, the scores of nouns and verbs in the two tests were calculated respectively. Descriptive statistics (such as the frequency distribution, percentages, means, and standard deviations) and a repeated Paired Sample T-Test were then run with the help of SPSS 24. Errors of spelling in the second test were also identified and classified for further analysis.

4. Results and Discussions

4.1 Significant Vocabulary Attrition or not?

Table 1 shows the descriptive statistics of the students' test scores of the total 30 verbs and nouns of the two tests. The average score of the 72 students is 94.77 in Test 1 and 86.02 in the second test. There is a much bigger internal difference among the students' scores in Test 2 (SD=13.97) than in Test 1 (SD=7.14). A paired T-test was performed to see whether there is a significant difference between the average scores of the two tests and the results are shown in Table 2, which indicates that there is a significant difference between the students' performance in vocabulary knowledge in the two tests (t=4.72, p<0.05). Therefore, we can say that the young learners' vocabulary knowledge declined significantly after the summer holiday in which they had no exposure or little exposure to English in the Chinese context.

Table 1. Descriptive statistics of the participants' scores at Test 1 and Test 2

	N	LS	HS	M	SD
Test one	72	66.67	100.00	94.77	7.14
Test two	72	40.00	100.00	86.02	13.97

Note. N= number of students; LS = the lowest score; HS = the highest score; M = mean; SD = standard deviation.

Table 2. Comparison of the participants' scores between Test 1 and Test 2 (N=72)

variable	M	SD	t	df	*p*
Students' Scores in Different Tests			4.72	71	.00***
Test one	94.77	7.14			
Test two	86.03	13.97			

Note. ***p< .001; M = mean; SD = standard deviation; t = significance test value of regression parameters; df = degree of freedom; p = p-value.

In previous studies, significant vocabulary attritions were observed among adult learners after an interval of three months (Asgari & Mustapha, 2010), one year (Alharthi, 2014), several years (Ni, 2015; Tomiyama, 2008) or even decades (Hansen, 1999). Generally speaking, the longer the interval is, the higher rates of attrition might be (Abbasian & Khajavi, 2010). In the present study, significant vocabulary attrition is identified after a summer holiday of two months, which means that it is far easier for the young EFL learners to suffer vocabulary attrition than adult learners. However, it should be noticed that not all participants in this

study suffered vocabulary attrition. Some of the Chinese students (21 out of 72) even got a higher score in the second test than they did in the first test, which partly explains the high SD value in test two. "Residual learning" is one of the reasons accounting for this within group variation. Cohen (1975, cited from Cohen, 1986) argued that "the mind of a language learner, particularly that of a young learner, may indulge in some sort of unlearning of incorrect patterns during a respite", which means that a pause in the learning process may cause a reduction in certain problem areas (p.147). Another possible explanation lies in the rehearsal effect brought by the vocabulary test. That is, as the participants repeated the same test two times, some of them might have got familiarized with the tested words (Tomiyama, 2008). Nevertheless, the rehearsal effect was smaller than expected because most of the students' scores are lower than that in test one. It is also noticed that most of the students failed to provide the correct answers in both tests. For example, participants who misspelled the word *internet* in the first test continued to misspell the word as *intermet* or *intenet* in the second test. This revealed the young learners' poor self-regulated learning ability as they hadn't checked the words after the first test as adult learners would had done, thus resulting in the low rehearsal effect in this study.

4.2 Vocabulary Attrition in Nouns Versus Verbs

Table 3 presents the descriptive statistics of the students' performances in terms of the two parts of speech of nouns and verbs. It shows that the students' scores of the nouns in the second test is lower than in the first test (from M=94.17 to M=87.32) while verbs show a greater decrease (from M=95.37 to M=84.72), suggesting that both nouns and verbs suffered loss after the two-month interval and that vocabulary attrition in verbs is greater than in nouns.

Table 3. Descriptive statistics of participants' scores of nouns and verbs in Test 1 and Test 2

	N	LS	HS	M	SD
N1	72	66.67	100.00	94.17	8.29
N2	72	40.00	100.00	87.32	13.57
V1	72	66.67	100.00	95.37	7.13
V2	72	33.33	100.00	84.72	15.96

Note. N1= nouns in Test 1; V1= verbs in Test 1; N2 = nouns in Test 2; V2 = verbs in Test 2; N = number; LS = lowest score; HS = highest score; M = mean; SD = standard deviation.

To find out whether the students' vocabulary knowledge in nouns and verbs suffered significant attrition, a repeated paired T-test was conducted whose results are shown in Table 4. According to Table 4, significant attritions were detected both in nouns (t =3.55, p<.01) and in verbs (t = 5.4, p<.001).

Table 4. Comparison of the participants' scores of nouns and verbs in Test 1 and Test 2 (N=72)

		Pair Differences							
					95% CID				
		M	SD	SEM	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	N1- N2	6.85	16.37	1.93	3.01	10.70	3.55	71	.00**
Pair 2	V1- V2	10.65	16.73	1.97	6.72	14.58	5.40	71	.000***

Note. **p< .01; ***p< .001; N1 = nouns in Test 1; V1 = verbs in Test 1; N2 = nouns in Test 2; V2 = verbs in Test 2; M = mean; SD = standard deviation; SEM = standard error mean; CID = confidence interval of the difference; t = significance test value of regression parameters; Sig = significance.

Another paired T-test was conducted so as to find out whether the two parts of speech are equally prone to attrition among the Chinese young learners (See Table 5). The results indicate that there are significant difference of vocabulary attrition in nouns and verbs (df=71, t=-3.10, p<.00), which means that participants perform significantly better in nouns than verbs in both tests. This finding is in line with some previous studies (Kuhberg, 1992; Sheikn et al., 2017), but different from the results reported by Cohen (1986) and of Ross (2002).

Table 5. Comparison of the difference of scores between verbs and nouns in Test 1 and Test 2 (N=72)

	Pair Differences							
				95% CID				
	M	SD	SEM	Lower	Upper	t	df	Sig. (2-tailed)
△N -△V	-3.80	10.37	1.22	-6.23	-1.36	-3.10	71	.00**

Note. **p< .01; N1 = nouns in Test 1; V1 = verbs in Test 1; N2 = nouns in Test 2; V2 = verbs in Test 2; M = mean; SD = standard deviation; SEM = standard error mean; CID = confidence interval of the difference; t = significance test value of regression parameters; Sig = significance.

There are several possible explanations for the higher susceptibility to attrition of verbs than nouns for the young students. First, as Ellis and Beaton (1993) noted, nouns are the easiest word class to learn, so they are usually learned much earlier than verbs in early classes.

According to the Regression Hypothesis, the earlier learned are the last forgotten, so nouns can be better remembered than verbs. Another explanation lies in the matter of imageability, which is introduced by Ellis and Beaton (1993). According to Ellis and Beaton, nouns tend to be more imaginable than verbs in foreign language vocabulary learning and that the greater the degree a word arouses a mental image, the more likely it is to be recalled. In the present study, it is noticed that the Chinese students' textbook is characterized by many pictures illustrating the meanings of words, especially nouns. Therefore, the learning and memorizing of nouns are facilitated with the help of the vivid images. Actually, in the vocabulary test, many nouns such as *train, model*, and *beach* are better retrieved by the students as they have a relatively higher degree of imageability compared with verbs like *finish* or *find*. In addition, word frequency can also be an important reason for the higher susceptibility to attrition of verbs than nouns. As found in many studies (e.g., Marefat & Rouhshad, 2007; Welten, 1987), low-frequent words are more vulnerable to attrition than high-frequent words. It is possible that the nouns chosen in the present study are of higher frequency than that of the selected verbs, so the nouns are more resistant to attrition compared with verbs in the present study.

4.3 Vocabulary Attrition in Word Spelling

According to Retrieval Failure Hypothesis, “forgotten information is not gone, but has become inaccessible”. There are many misspelled words in the tests and some examples are shown in Table 6. These misspelled words in the tests seem to support this hypothesis, that is, the young Chinese EFL learners’ knowledge of the spellings of the target words is not completely forgotten but can be partially retrieved just as the hypothesis suggested. For example, as for the word *comb*, some participants provided the wrong spelling *comd* and some misspelled it as *camd, conb*, or *cand*, which have some resemblance to the correct spelling. This means that the students still have some knowledge of the spelling of the target words, and they are simply unable to retrieve them fully. This finding also shows that the young Chinese EFL learners’ vocabulary knowledge still remain accessible even though some of it was difficult to be retrieved, as some previous studies have found about the adult learners (Bahrick, 1984; De bot et al., 2004).

Table 6. Misspelt words in the vocabulary tests

Correct spelling	Errors	Frequency of occurrence
Comb	Comd	8
	Camd	6
	Conb	2
	Cand	2
Haircut	Haicut	7
	Haricut	3
	Hoircut	2
	Haricat	2
Pack	Pak	5
	Park	3

Subway	Sudway	4
	Subnay	3
Wash	Wace	3
Doctor	Docter	2
Model	Mode	2
Internet	Interner	2
	Internte	2

The frequent occurrence of misspelling of words in this study is also consistent with what Cohen (1986) have pointed out that the vocabulary knowledge resides in the brain and is thus potentially available. That is, there is residual vocabulary knowledge left in the Chinese younger learners' brains and these residues of vocabulary knowledge can actually still be available and helpful in future reactivating and relearning the words (de bot el al., 2004). In other words, even though some words cannot be fully retrieved, they are much more likely to be memorized than new words which are previously unknown. In addition, de bot et al., (2004) also pointed out that there are different levels of memory in vocabulary retrieving. For a spelling task in L2, which is more of a recall one (i.e. the ability to produce words), it requires a relatively higher level of vocabulary activation when retrieving words compared with passive recognition. This means that memorizing the spelling of words requires much effort and deserves special attention from both the primary school English teachers and learners.

5. Conclusions and Pedagogical Implications

This study shows that significant attrition in English vocabulary occurred among the Chinese primary students after a disuse of English during the interval of summer recess. Between the two parts of speech, nouns and verbs, it is found that verbs are significantly more vulnerable to attrition than nouns. Besides, the analysis of spelling errors provides evidence for the Retrieval Failure Hypothesis that the forgotten lexical knowledge are not completely gone but can be partially retrieved.

This study provides implications for vocabulary teaching in primary school in L2 contexts. Given the limited exposure to the target language and the vulnerability of the young language learners to vocabulary attrition, teachers are advised to pay more attention to relearn the words in vocabulary learning instruction, so as to reduce vocabulary attrition during an interval of language disuse. In addition, visual aids or other multimedia means could be applied to create images of motion to the young learners when instructing verbs, as verbs are more vulnerable than nouns to attrition.

This study contributes to our understanding of the English vocabulary attrition of young Chinese EFL learners during the summer holiday in China. To ensure the validity of the results, a questionnaire was applied to screen out students that had received formal tutoring during the holiday. However, this cannot completely guarantee that the chosen participants had zero access to English during the holiday as some of them might have access to English through other informal ways such as English TV programs or reading. Therefore, findings of the study should be weighed carefully. Future studies could examine other extralinguistic

variables of L2 vocabulary attrition like the onset proficiency, age, or motivation (Hansen, 2011; Ni & Yan, 2006; Wei, 2014).

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