

## Dictionary Use of EFL Learners in Taiwan: A Nationwide Survey

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### Abstract:

*Dictionaries are indispensable for foreign language learning but have not yet received sufficient attention in Taiwan and as a result, language learners cannot develop appropriate skills for more efficient learning. A nationwide survey was conducted and intended to obtain a better understanding of dictionary look-up behaviors of Taiwanese EFL learners. Questionnaires distributed by post among high schools and universities with special interest in its contribution of dictionary use to reading comprehension and vocabulary learning. A detailed analysis indicates that learners tended not to interrupt the reading process by consultation behaviors as well as always inclined to select contextual appropriate meaning for comprehension. Findings related to vocabulary development are more encouraging in that learners intended to expand their vocabulary width and build up vocabulary depth when they attempt to look up not only unknown words but also unfamiliar ones and, in addition, to cover more semantic meanings of polysemous words. A pedagogic position is therefore proposed for dictionary use. Training on the skills of dictionary use is recommended to integrate into language classroom so as to instruct learners to adopt more effective skills. With regular practice, language learners can have better opportunity to improve foreign language learning by means of proper dictionary use, especially in vocabulary learning and reading comprehension.*

**Key Words:** dictionary use, English learning, reading comprehension, vocabulary development

### 1. Introduction

It is a common scene that EFL learners are busy looking up dictionaries and endeavor to complete reading or writing tasks. Above all, it is frequently observed that learners would look up an unknown word only to find a potential meaning for reading or writing assignments but ignore additional information, such as parts of speech, pronunciation features, or semantic coverage. This habitual behavior can be said to stem from a lack of acknowledgement of dictionary value in language classroom. In order to provide learners with effective skills of dictionary use, this study is intended to investigate the dictionary look-up behaviors of EFL

learners in Taiwan. The purpose of this study is three-fold. First, it is intended to understand the manner how language learners use their English dictionaries and hence to provide more practical guidelines for dictionary use. A thorough analysis of the data we collect is believed to reveal valuable information. Second, we would like to explore the relationship of dictionary use with reading comprehension and with vocabulary learning because dictionary use has the potentiality to enhance foreign language learning.

## **2. Review of Literature**

### **2.1 Dictionary Use for Language Learning**

Frequently used as a reference tool in EFL, English dictionaries have received more and more attention. Although previous studies centered around the effects of dictionary use on reading comprehension, attention was also paid to its potential effects on vocabulary learning. Meanwhile, types of dictionaries became another hot pursuit ever since. Various types of dictionaries, including monolingual, bilingual and bilingualized, were investigated for their potential contribution to foreign language learning (Baxter, 1980; Tomaszczyk, 1983; Laufer & Kimmel, 1997; Laufer & Levitzky-Aviad, 2006; Zhao, 2010). Complicating the scenario came the invention and widespread use of electronic dictionaries, which is an advanced lexicography product out of modern technology. Nowadays, electronic dictionaries are becoming so prevalent among language learners that this type of dictionaries gradually replaces traditional paper dictionaries. Their appearance also attracts academic interests (Zhang, 2004; Deng, 2005; Bower & McMillan, 2006; Svendsen, 2006; Kobayash, 2008). Before any suggestion can be provided for dictionary use in language classroom, it is of great value to review existing literature in order to establish a theoretical foundation for present research.

Dictionary use for reading comprehension aroused vigorous debates in the last century and was, however, always discouraged. Since dictionary consultation took up a substantial amount of time, it was found that it could interrupt reading process and impede reading comprehension (Bensoussan, Dim & Weiss, 1984; Carrell, Devine & Eskey, 1988). In contrast, a different conclusion was arrived that, although dictionary use did slow down reading speed, it did not readily imply that it could hinder reading comprehension. Experiments were conducted to compare the provision of dictionaries for reading comprehension and found that subjects' performance in reading comprehension tests was significantly better when they were provided with dictionaries (Tono, 1988; Summers, 1988).

In addition, problems occurred when learners tried to select a proper meaning for polysemous items after they decided to use dictionaries. Although it was suggested that, during the process of dictionary consultation, an effort needed to be made to differentiate various senses of polysemous words and choose a contextually appropriate meaning, learners of whatever proficiency levels lacked the skill (Schofield, 1982; Myers, 1994; Nesi, 2002; Wingate, 2004; Deng, 2005; Chen, 2010). Research found that inappropriate meaning selection was ranked as a major consultation failure in a study of consultation process for international students (Nesi, 2002). Similarly, think-aloud data also revealed that Chinese learners of German always tended to ignore the context and only picked up a familiar, rather than contextual appropriate, meaning (Wingate, 2004). Even subjects of English majors were liable to select the first or second sense in an entry (Chen, 2010). These studies undoubtedly pointed out that instruction on meaning selection is necessary if dictionaries are expected to be a useful language learning tool for reading comprehension (Deng, 2005).

Learners' interpretation and understanding of lexical information provided in a dictionary can also be very problematic (Nesi & Meara, 1994; Winkler, 2001). Learners were found to have difficulty understanding the lexical information provided (Winkler, 2001), or their incomplete understanding of lexical definition might lead to unacceptable English writing (Nesi & Meara, 1994). It could cover various aspects of lexical information, such as grammatical, collocational, or phonetic information (Harvey & Yuill, 1997; Nesi, 2002). In spite of these findings, the instruction on how to interpret the information provided in a dictionary seemed to be neglected in foreign language classroom. It was therefore strongly recommended that the elucidation of lexical information would be essential for effective dictionary use (Nesi, 2002).

Dictionary use for vocabulary development seems to arouse more interests than for reading comprehension. However, disagreements existed and arguments mainly grew out of the assertion that vocabulary should be learnt from context, where the specific properties of lexical items and the fine distinctions between synonymous words could be revealed. On the contrary, dictionary use seems to implicitly encourage the learner to learn new words in isolation. In this study, the stand will be taken that dictionary use is regarded conducive to vocabulary learning but not intended to replace contextual vocabulary learning (i. e. incidental learning).

The effect of dictionary use on vocabulary learning was investigated and found positive (Luppescu & Day, 1993; Knight, 1994). Luppescu and Day's study found that subjects in a allowed to use dictionaries scored significantly higher than the control group without access to dictionaries in an immediate vocabulary test. Similar results were also found that higher frequency of dictionary use led to higher scores in vocabulary tests (Chang, 2005). The effects of

dictionaries was further confirmed in Hulstijn, Hollander, and Greidanus' (1996). They compared three different learning conditions: provision of marginal glosses, access to dictionaries and a control group without any aid. Although the performance of marginal-gloss group was found significantly better than the other two groups, word retention scores for those words which were really consulted by dictionary group were actually higher. It means that, when a word was looked up, it had more chance to remain in the learner's memory. The noticing of form-meaning relationship had been therefore considered as the preliminary step for effective vocabulary learning.

An experiment compared the effects of three lexical processing strategies: dictionary consultation, ignoring, and inferring and found more conclusive and reliable results (Fraser, 1998). Think-aloud protocol data revealed that, when the learner first attempted to infer the meaning of an unknown word and subsequently consulted a dictionary, he could retain more word meanings. As Fraser explained, three critical stages were involved in the process of dictionary consultation. First, the learner's attention was focused on the form-meaning connection in the look-up behaviors. Noticing this relationship was regarded the foremost step for learning a new word. Second, a temporary representation of the new word was formed in working memory while the learner rehearsed it. Rehearsal offered an opportunity for information to stay in the memory longer. At the last stage, after locating the word in a dictionary, the learner would need to choose the proper part of speech to fit the particular text, made an analysis of its grammatical properties, and even related it to world knowledge or to L1 words. This is an "elaboration", which is able to create a deeper trace in memory (Fraser, 1998: 84). These stages render a better chance for an unknown word to retain in long-term memory.

## **2.2 Types of Dictionaries**

After dictionary use has been found beneficial for reading comprehension and vocabulary learning, the issue of different types of dictionaries in use becomes another hot pursuit. While previous research are concerned more about the struggle between monolingual and bilingual dictionaries, recent studies always contrast the popularity between paper and electronic dictionaries. In the following section, we would like to discuss some influential research in this respect.

In foreign language teaching, monolingual dictionaries had always been considered superior to bilingual dictionaries in that translation equivalents presented in bilingual dictionaries could be inadequate and misleading (Bejoint, 1981, 1987; Snell-Hornby, 1987, McCarthy, 1990). Since a translation equivalent of a language approximated to the meaning of an lexical item in

another language only to a degree, the presumed one-to-one relationship between translation equivalents of native languages and foreign lexical items of target languages would greatly impair the vocabulary development of the learner's lexicon (McCarthy, 1990). The provision of translation equivalents in bilingual dictionaries would possibly encourage learners to pin down the meaning of a foreign word with a misleading translation equivalent. Therefore, learners would otherwise be advised to develop the ability to define a word with monolingual dictionaries. For these reasons, monolingual dictionaries were regarded to be a better option than bilingual dictionaries for foreign language learning (Baxter, 1980).

However, the preference for bilingual dictionaries over monolingual was so robust that it would be both difficult and impractical to force the learner to give up bilingual dictionaries (Tomaszczyk, 1983; Hartmann, 1987; McCarthy, 1990; Laufer & Kimmel, 1997). Not only learners of lower proficiency level relied heavily on bilingual dictionaries, so did advanced learners (Tomaszczyk, 1983). Affective factors were commonly agreed to be the main reasons in that learners always felt more secured when they could access the translations or explanations in their native language (Laufer & Kimmel, 1997). Definition written in a foreign language was extremely difficult for learners of low-level proficiency and the intelligibility of the definitions constituted another linguistic challenge for learners (Bejoint, 1981; Thompson, 1987; Horsfall, 1997; Laufer & Kimmel, 1997; Gonzalez, 1999). Bilingual dictionaries, on the other hand, were liable to lead learners to develop the lexicon following the semantic coverage of L1 translation equivalents and resulted in misconceptualization of target lexical items. Out of an intention to combine the advantages of both types of dictionaries, a new type of dictionaries, bilingualized dictionaries, juxtapositioned both target language definitions and native language translation equivalences to take care of the linguistic incapability and emotional needs of EFL learners (Laufer & Kimmel, 1997). To examine the effectiveness of this kind of dictionaries, an experiment was conducted to compare the effectiveness of three types of dictionaries: monolingual, bilingual, and bilingualized dictionaries and found that subjects reading the lexical information introduced in bilingualized dictionaries scored higher (Laufer & Hadar, 1997). A modified version, "bilingualized dictionary plus" was subsequently designed particularly for writing and translation to provide additional information, such as synonyms or near synonyms, for production tasks (Laufer & Levitzky-Aviad, 2006). Up to now, bilingualized dictionaries are proved effective for low and intermediate learners (Zarei, 2010), and gain much more popularity among EFL learners (Zhao, 2010).

Upon the progress of modern technology, electronic dictionaries create an even more ground-breaking revolution in dictionary use. The popularity of and strong preference for electronic dictionaries over paper dictionaries are revealed virtually in most researches and the

merits of electronic dictionaries mainly lie in its portability and search speed (Weschler & Pitts, 2000; Deng, 2005; Bower & McMillan, 2006; Kobayash, 2008; Chen, 2010). The enormous convenience and ease brought about by electronic dictionaries greatly reduces the loading of EFL learners when they are struggling on the lengthy path of foreign language learning. Language learners can carry their electronic dictionaries everywhere they go and that means learning can happen anytime and anywhere.

From the forementioned findings, we can conclude that dictionaries are generally regarded beneficial for language learning, be it monolingual or bilingualized. If this point of view is indisputable, a new question comes up: how can we train our learners to adopt proper dictionary use skills for more effective language learning? Only after we have an update picture of learners' look-up behaviors can we suggest effective skills for language learners. It is, therefore, the objective of this research to draw a comprehensive picture of learners' look-up behaviors. The research questions are stated below:

1. Do EFL learners present adequate dictionary consultation behaviors in the sense that their consultation behaviors possibly enhance reading comprehension when they are conducting reading tasks?
2. Do EFL learners present any dictionary use skills which are beneficial for vocabulary development?
3. Are electronic dictionaries preferred over paper dictionaries?

### **3. Methodology**

#### **3.1 Construction of the Questionnaire**

To obtain a comprehensive understanding of dictionary use of Taiwanese EFL learners, we self-constructed a questionnaire to fulfill our purposes. Fundamentally, questions were designed probing into the relationship of dictionary use with reading comprehension and with vocabulary learning. Moreover, bearing in mind the possible impact of modern technology on dictionary use behaviors, we were enthusiastic to understand the status of electronic vs. paper dictionaries. As a result, the questionnaire contained three parts. Questions in Part 1 were related to personal background information, and two other major categories of questions were conceived for the issues of: 1) reading comprehension and vocabulary learning, and 2) personal dictionaries (Appendix A). The former contained 12 questions and was related to the behaviors of dictionary

use involved in reading activity. The latter included 8 questions and was intended to reveal specific information about learners' personal dictionaries.

### 3.2 Participants and Procedures

In order to seek for a maximum amount of informants for this survey, questionnaires were sent to high schools and universities to seek volunteers to fill out questionnaires. In Taiwan, English courses are compulsory courses in these two levels of educational system, students at these two levels are continuous EFL learners and thus regarded reliable informants. With the assistance of EFL instructor acquaintances, questionnaires were distributed among classes of EFL learners. In each class, the purposes of the study and the way to fill out the questionnaire were clearly explained. No time limit was pre-determined but learners were advised to select appropriate answers out of their first instinct and not to hesitate about any answers. In particular, they were reminded to notice that some questions allowed multiple responses and that they were encouraged to provide more than one answer. The completion of the questionnaire took approximately 15 to 20 minutes. 1500 copies of questionnaires were sent and 1172 were found valid.

## 4. Findings

### 4.1 Informants' Background

The questionnaire began with three personal background questions: gender, education systems and majors. The result of background information is shown on Table 1. It indicates that more female informants participated in this investigation and university students occupied over 60% of informants. For major studies, more non-English majors, were involved in the study.

**Table: 1**

**Descriptive analysis of informants' background information**

Background questions		frequency	percentage
gender	male	363	31%
	female	808	69%
education system	university	731	62%

	Junior college	241	21%
	high school	195	17%
major	English	410	36%
	non-English	726	64%

#### 4.2 Reading Comprehension and Vocabulary Learning

There were 12 questions in this part. While Question 1 to 8 allowed only one choice, Question 9 to 12 allowed more than one responses. The former was more concerned with the reading process and the latter with the attempts informants made to learn lexical items in reading. The results of Chi-square analyses for Question 1 to 8 are shown in Table 2. We can see that the results of all questions, except Question 4, reach a level of significance. The frequency and case percentage for Question 9 to 12 are shown in Table 3. Still, a detailed analysis of these results is necessary.

**Table: 2**

**The results of Chi-square analysis of Question 1 to 8 in part 1**

Question	n	X <sup>2</sup>	df	Sig.
Q1	1100	214.524	3	.000
Q2	1128	469.645	3	.000
Q3	1112	1066.755	3	.000
Q4	1119	1.437	2	.487
Q5	1110	479.919	4	.000
Q6	1144	452.976	4	.000
Q7	1129	467.673	3	.000
Q8	1123	201.007	3	.000

During the reading process, a number of problems could possibly affect reading efficiency and lead to comprehension difficulty. Question 1 represented a pivotal issue regarding the relationship between dictionary use and reading comprehension and inquired about whether informants would interrupt the reading process by dictionary use. It was found that 40% of informants would consult a dictionary every time they encountered an unknown word, while 37% would wait till one paragraph and 20% did so till the whole passage was finished. A collapse of responses (b) and (c) showed that 57% of informants would not suspend the reading process for dictionary consultation but waited till a complete section was finished. Efficient reading also reflected in the responses to Question 6, which showed that 33% of informants did not look up all the words but select those with more contribution to reading comprehension. Subsequently, Question 2 required informants to indicate the actual procedures of look-up behaviors. It was found only 43% of informants opted for choice (b) “temporarily memorizing the spelling”, and as high as 37% of informants adopted a time-consuming behavior and checked unknown words letter by letter. This result indicated that a considerable amount of informants lacked proper skills for dictionary consultation.

Moreover, during the process of dictionary consultation, polysemous words could increase comprehension difficulty and halt the whole process. However, this problem seemed not to bother our informants. In Question 3, over half of informants (67%) would choose a meaning on the basis of contextual clues while encountering a polysemous word. Still, selection of other responses implied that explicit instruction on appropriate meaning selection would be necessary for some informants. Nevertheless, even when informants successfully identified the required meaning, responses to Question 4 presented a somewhat contradictory result that 34% of informants would read every meaning included in a lexical entry, 35% of informants only picked necessary meanings, and 32% of informants would study the required meaning but skimmed all the others. Although the reading of undesired meanings could possibly disturb the comprehension process, it might somehow contribute to vocabulary development by expanding the semantic coverage of a familiar or unknown lexical item. Furthermore, comprehension difficulty might also result from dictionary quality. A majority of informants indicated that “unclear word meaning” would bother them while consulting dictionaries (42%) in Question 5. This would concern with the intelligibility of lexical definition provided in dictionary and had been acknowledged as a possible hindrance to successful reading.

It was of great interest to know that, after the phase of dictionary consultation, what informants would do with the words that had been looked up. Questions 7 and 8 enquired about the post-reading activities. In Question 7, 52% of responses was put on choice (a) that the informant would do the reading again after consulting a dictionary. This was considered a more

constructive procedure for vocabulary learning in that the review of new words in its context would enhance lexical understanding and foster lexicon development. As for Question 8, only 35% of informants indicated that they continued to memorize new words, while the rest either delayed the mental task or even ignored it. Memorization of unknown or unfamiliar words seemed to be a rather challenging task for this group of language learners.

**Table: 3**

**Three choices of higher frequency for Question 9 to 12 in part 2**

Questions	frequency	response percentage	case percentage
<b>Q9: familiarity of words</b>			
a. completely unknown words	964	50%	84%
b. words encountered but unfamiliar with	815	42%	71%
c. known words	153	8%	13%
<b>Q10: techniques for word learning</b>			
b. break words into individual syllables	616	22%	53%
c. repeat writing word spelling	588	21%	51%
h. practice word pronunciation	490	18%	42%
<b>Q11: additional lexical information</b>			
b. pronunciation	748	27%	65%
a. parts of speech	531	19%	46%
d. other meanings	483	17%	42%
<b>Q12: word type for consultation</b>			
a. general words	950	38%	82%
b. idioms or phrases	676	27%	58%
d. proper nouns/professional terminology	357	14%	31%

Questions 9, 10, 11, and 12 allowed multiple responses and were assumed to reveal more information with regard to vocabulary development. Table 3 shows only three choices receiving higher frequency.

In Question 9, informants would look up unknown words (84%) as well as unfamiliar word (74%). The high percentages of these two options were very encouraging. It seemed that learners would make efforts both to expand vocabulary width and to build up vocabulary depth. Besides, this questionnaire provided an opportunity to understand the strategies that informants employed to learn vocabulary. Question 10 listed eight different techniques and the result did not show much percentage difference among all options. In other words, informants employed a great variety of techniques for word learning. Interestingly, two options related to the phonetic features of lexical items obtained a higher percentage of responses, 53% for syllable structure and 42% for pronunciation practice. It seemed that for this group of informants, the phonetic features of English words were considered essential for word learning. The same inclination repeated in the responses to Question 11, which was intended to reveal other lexical properties that motivated informants to use their dictionaries. Again, the phonetic properties of lexical items received a higher percentage of responses (65%). The phonetic features of lexical items seemed to be granted an important status in vocabulary learning for this group of Taiwanese learners.

### 4.3 Personal Dictionaries

Questions in this category were related to informants' individual dictionaries, including what type of dictionaries was being used, how informants used them and how they thought about their dictionaries. This group of questions characterized our special interests in the growing popularity of electronic dictionaries and the declined status of paper dictionaries. The results of Chi-square analyses for Question 1 to 4 are shown in Table 4 and it shows that all results reach a level of significance. The frequency and case percentage for Question 5 to 8 (multiple responses allowed) are shown in Table 5. A detail analysis will also be provided in the following.

**Table: 4**

#### **Results of Chi-square analysis of Question 1 to 4 in part 2**

Question	n	X <sup>2</sup>	df	Sig.
Q1	917	1176.112	7	.000
Q2	1120	346.684	2	.000
Q3	1100	203.702	2	.000
Q4	1130	855.251	2	.000

In Question 1, it was revealed that 42% of informants used electronic dictionaries and 40% used paper dictionaries. The difference was not so great as expected. Nevertheless, Question 4 indicated that an overwhelming percentage of informants (74%) showed their preference for electronic dictionaries if the price consideration was excluded.

Questions with regard to dictionary quality were conceived and required informants to evaluate their dictionaries. Questions 2 and 3 required informants to make a judgment about whether the amount of lexical items and exemplar sentences were sufficient in their dictionaries. For Question 2, 55% of informants considered the vocabulary size satisfactory. A test of independence was conducted to see whether there would be a correlation between informants' majors and their choices. However, no significant result was found,  $X^2(2, N = 1085) = 1.685, p > .05$ . In Question 3, 50% of informants considered their dictionaries containing "many exemplar sentences". Similarly, a Chi-square test of independence was conducted to see whether there would be a correlation between informants' majors and their choices, but no significant result was found,  $X^2(2, N = 1065) = 3.526, p > .05$ . It means that the major studies of informants did not influence their responses to these two questions. Overall, the responses revealed that informants were, on the whole, satisfied with the amount of lexical items and exemplar sentences provided in their dictionaries.

Questions 5, 6, 7, and 8 in Part 3 also allowed multiple responses in order to encourage informants to think more about the functions and unique characteristics of their personal dictionaries. Table 5 shows three choices which received higher frequency of responses.

**Table: 5**

**Three choices of higher frequency for Question 5 to 8 in part 2**

Questions	frequency	responses percentage	cases percentage
Q5: occasion for dictionary use			
a. reading an English passage	756	27%	66%
e. doing translation task	628	22%	55%
d. writing English composition	495	18%	43%
Q6: dictionaries of other languages			
a. Japanese	674	38%	59%

h. not use other language dictionaries	403	23%	35%
g. Korean	216	12%	19%
Q7: advantages of electronic dictionaries			
a. portability	786	36%	74%
b. speedy search	766	35%	72%
c. instantaneous pronunciation demonstration	634	29%	60%
Q8: advantages of paper dictionaries			
a. much clearer explanation	659	22%	58%
b. a large vocabulary	548	18%	48%
c. plenty origin sources	395	13%	35%

Here, we would like to focus on the comparison between electronic and paper dictionaries. The responses to Question 7 revealed three favorable features of electronic dictionaries: portability (74%), speedy consultation (72%), and pronunciation demonstration (60%), while the advantages of paper dictionaries were “clearer word explanation” (58%), “a large vocabulary” (48%), and “plenty origin sources” for lexical items (35%). Following earlier researches, “portability” and “speedy consultation” were confirmed to be two noticeable and well-recognized advantages of electronic dictionaries, and “a large vocabulary” to be the major advantage of paper dictionaries

## 5. Conclusion

For the last decade, more and more research has been conducted to explore the role of dictionaries in EFL. However, a relatively few investigations have been done in Taiwan. Existing investigations include only a small number of students (for example, Lin, 2007; Lee, 2015). Accordingly, the results obtained in this research will no doubt offer valuable insight for dictionary use not only for EFL classroom in general, but for Taiwanese learners in particular. Principally, we will discuss issues in relation to reading comprehension and vocabulary learning on the basis of the results obtained in this study.

For reading activity, it is found that, only after a paragraph or a passage was completed would the majority of our learners consult a dictionary. Interrupting the reading process seemed to be considered, consciously or unconsciously, as an obstacle to reading process by this group

of learners. The appropriate timing of dictionary use during the reading process needs to be emphasized in language classroom for efficient reading (Hulstijn, 1993; Bower & McMillan, 2006). As stated earlier by Horsfall, what counts as essential in dictionary skills is, quite paradoxically, “when not to use a dictionary” (1997: 7). After the decision of dictionary use is made, a subsequent step is to identify which words to be looked-up. A closer look at the responses sheds more insights. It can be seen that learners did not check all the words but selected those with more contribution to reading comprehension, indicating that they tried to be efficient in reading. In addition, while encountering a polysemous item, more learners tended to select a contextually appropriate sense. Selection of a proper lexical meaning is closely associated with successful reading comprehension (Schofield, 1982; Nesi, 2002; Wingate, 2004). Nevertheless, some learners needed explicit instruction as how to identify the sense required in reading.

For vocabulary learning, some behaviors would contribute to vocabulary development. First of all, during the process of meaning selection, learners would possibly read thoroughly or at least skimmed other senses included in a lexical entry. As polysemous words abound in language, this behavior helps enlarge the learner’s scope of word knowledge and probably raise the awareness of the manner of lexical extension, metaphorically or metonymically. Moreover, it is found that learners would look up unknown words as well as those words which had been encountered but not as familiar. This represents their attempts both to expand vocabulary width and to build up vocabulary depth (Gonzalez, 1999). After the desired sense is identified, some learners start to read the passage again. This behavior is highly recommended in a project by Nesi (1999: 63). It is believed that the step is conducive not only to reading comprehension but to vocabulary learning on the grounds that the appropriate meaning of words can be re-activated in a context so that word retention can be enhanced. Inadequate behaviors of dictionary use, however, are also found. During the process of dictionary consultation, fewer learners would temporarily memorize word spelling. Learners needs to be advised that it is the temporary memorization of word spelling that can substantially contribute to word retention in long-term memory because it is able to create a deeper trace in mind and consequently build up the cornerstone for memory (Hulstijn, 1993; Hulstijn *et al.*, 1996; Fraser, 1998; Chen, 2010).

In addition, techniques employed by learners for word learning is surveyed. An unexpected tendency is unfolded that this group of learners always felt interested in the phonetic features of words and would appeal to this information for vocabulary learning. Learners tried either to memorize separate syllables or to practice the pronunciation verbally for better recalls. We speculate that this group of learners are affected by their native language, Mandarin, in which the syllable structure of characters allows only one vowel. The learner would attempt to break up an

English word into “Chinese-like” syllables similar to the pronunciation of individual Chinese characters for easy memorization. A wise application of these phonetic features may have the potentiality to enhance word retention.

Finally, consistent with previous research, an overwhelming preference is also found for electronic dictionaries in this research. As have been surveyed in earlier studies, high portability and incredible search speed are two merits that attract language learners (Kobayash, 2008; Chen, 2010). In spite of the great convenience granted by this kind of linguistic tool, shortcomings are frequently articulated, including unclear word meanings (Svendson, 2006; Kobayash, 2008; Chen, 2010), over-reliance on word-to-word translation (Deng, 2005; Zhang, 2004), and no mental trace contributing to word retention (Chen, 2010). Due to the time and financial constraints, this research does not look specifically into these possible disadvantages and would leave this issue for future research.

Based on the findings of this research, explicit classroom instruction can be conceived for a more efficient reading. The appropriate timing of dictionary consultation during reading process is critical for successful reading and learners are advised to withhold immediate dictionary consultation every time an unknown lexical item appears. On this occasion, patience is not only a virtue, but is also an indispensable tactic. On the other hand, the actual procedures of dictionary consultation receive much less attention, but they may hold the key to effective vocabulary learning by creating a deeper trace in memory. Viewed in this light, classroom instruction on dictionary use is therefore suggested for foreign language learning.

In sum, it is a priority to encourage the conceptualization of dictionary value for language learning given that a continuous ignorance of dictionary-use instruction still prevails in language classroom. Training on skills of dictionary use is recommended to integrate into language classroom and instruct learners to adopt more effective skills. With regular practice, language learners can learn how to control the timing and procedures of dictionary use (Stirling, 2003; Zhang, 2004; Midlane, 2005; Bower & McMillan, 2006; Kobayshi, 2008). Studies have proved the effectiveness of dictionary use instruction implemented in language classroom (Chi, 2003; Lew & Galas, 2008; Bae, 2015). A notable investigation conducted in Hong Kong found positive results of dictionary skill training on EFL learners (Chi, 2003). It shows how to integrate the skills of dictionary use into regular course contents. It is convinced that, with appropriate skills of dictionary use adopted, language dictionaries are believed to contribute more profoundly to successful language learning. As long as this linguistic reference tool continues to thrive among language learners, it is imperative to place it in the right habitat for successful language learning.

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**Appendix A: English version of question items and the percentages of responses****Part 1. Reading Activity and Vocabulary Learning**

1. What will you do with unknown words while reading a passage?
  - a. Every time when an unknown word appears, I will look up a dictionary.
  - b. Only after one paragraph is completed will I look up a dictionary
  - c. Only after the whole passage is completed will I look up a dictionary.
  - d. I do not use dictionary and just wait next time.
2. How do you find a word in a dictionary while reading a passage?
  - a. letter by letter
  - b. memorizing the spelling
  - c. only checking the first few letters
  - d. others.
3. Most of the time, a large number of words have more than one meaning. How do you make a choice among all these meanings while reading a passage?
  - a. I will always select the first meaning.
  - b. I will consider its context and select a suitable meaning.
  - c. I will consider its grammatical logics and select a suitable meaning.
  - d. There are always too many meanings and I am not able to make any choice.
4. What will you do with all meanings occurring in a single lexical entry?
  - a. I read each meaning and its exemplar sentences carefully.
  - b. I only select what is needed for the task, and neglect all the others.
  - c. I carefully read the meaning needed and skim all the others.
5. What bothers you most when you are looking up a word in a dictionary for reading?
  - a. unable to find the target word
  - b. unclear explanation of word meanings
  - c. unable to understand the phonetic symbols
  - d. ambiguous exemplar sentences
  - e. others.
6. Will you look up all the unknown words in a reading passage?
  - a. Yes, I will.
  - b. No, only words of high practicality
  - c. No, only words contributing more to passage understanding .
  - d. No, only a few words.
  - e. No, I do not look up any word.
7. What will you do after you look up all the unknown words in a reading passage?
  - a. I will read the passage again.
  - b. I will start to memorize new words.
  - c. I will check information related to the passage.
  - d. I will read the next passage.
8. Will you try to memorize the word after finishing dictionary consultation?
  - a. I make notes for later review.
  - b. I do my best to memorize the word.
  - c. I memorize only some words.
  - d. I do nothing with the word and will memorize it after some time.
9. What kind of words will you look up with your dictionary while reading a passage? (multiple responses allowed) .
  - a. completely unknown words
  - b. words encountered before but unfamiliar with
  - c. familiar words

10. What kind of techniques will you use to memorize English vocabulary? (multiple responses allowed) .
  - a. memorize the word by route
  - b. break the words into individual syllables
  - c. repeat writing the spelling
  - d. separate word roots and affixes
  - e. use imagination and association
  - f. memorize the whole sentence in which the word is embedded
  - g. make a sentence with the word
  - h. practice its pronunciation
11. What kind of information will you also look up in a dictionary apart from lexical meanings? (multiple responses allowed) .
  - a. parts of speech
  - b. pronunciation
  - c. exemplar sentences
  - d. other meanings (such as polysemous words)
  - e. related idioms or phrases
  - f. derivative words
12. What type of words will you usually look up? (multiple responses allowed) .
  - a. general words
  - b. idioms or phrases
  - c. slangs
  - d. proper nouns or professional terminology
  - e. abbreviations
  - f. culture related words

#### Part 2. Personal Dictionaries

1. Which kind of dictionaries do you use most frequently?
  - a. paper dictionaries
  - b. electronic dictionaries
  - c. internet dictionaries
2. What do you think about the size of vocabulary in this dictionary?
  - a. it has a large size of vocabulary and I always can find words I need.
  - b. it has a moderate size of vocabulary, but I cannot find words of low frequency
  - c. it has a small size of vocabulary, and I always cannot find words I need.
3. What do you think about the exemplar sentences provided in this dictionary?
  - a. It provides many exemplar sentences and helps me understand the word usage.
  - b. It provides only one exemplar sentence and I cannot fully understand the word usage.
  - c. It does not provide any exemplar sentences for most of the words.
4. Do you prefer electronic or hard-copy dictionaries if the consideration of price is excluded?
  - a. electronic dictionaries
  - b. paper dictionaries
  - c. it's difficult to compare.
5. On what occasions will you use this dictionary? (Multiple responses allowed).
  - a. reading English passages
  - b. being in conversation class or talking to foreigners
  - c. practice of listening comprehension or listening to English news
  - d. writing English composition
  - e. doing translation assignment
  - f. comprehending or doing English grammar
  - g. others
6. Electronic dictionaries always provide dictionaries for other languages. Which language dictionary will you

also use? (Multiple responses allowed).

- a. Japanese
- b. French
- c. German
- d. Spanish
- e. Italian
- f. Russian
- g. Korean
- h. do not use other language dictionaries

7. What are the advantages of electronic dictionaries in comparison with paper dictionaries? (Please choose three items.)

- a. portability
- b. speedy search
- c. instantaneous pronunciation demonstration
- d. small and space saving
- e. energy saving
- f. simple but concise content
- g. more additional functions, such as calculator and entertainment games
- h. contain dictionaries for other languages

8. What are the advantages of paper dictionaries in comparison with electronic dictionaries? (Please choose three items.)

- a. much clearer explanation
- b. containing a large vocabulary
- c. plenty sources of word origin
- d. more exemplary sentences
- e. providing other derivatives
- f. low price
- g. more new words
- h. easier to memorize word spelling
- i. able to encourage the habit of dictionary use
- j. for notebook use