Introduction

In this paper, we will present and discuss the literature regarding dictionary use in second/foreign language learning, and hopefully be able to provide a useful review for future research because dictionary use is regarded as an indispensable strategy for reading comprehension and vocabulary development. It is a usual scene that the language learner carries a dictionary around while learning a second/foreign language. Theoretically, arguments abound as to the usefulness and effectiveness of dictionary use as a language learning strategy; above all, the effects on reading comprehension arouse vigorous debates. In light of experimental findings, doubts will be cast on the conception that consulting dictionaries would adversely affect reading comprehension and thus this strategy is always suggested as the last resort. Before investigating the relationship between dictionary use and vocabulary development, a distinction between dictionary use for reading comprehension and for vocabulary learning needs to be made.

Dictionary use for reading comprehension is generally not approved for language learners to pursue in the process of reading (Bensoussan, Dim & Weiss, 1984; Carrell, Devine & Eskey, 1988). Nevertheless, it will be argued that this strategy requires a second thought if we scrutinize the research literature regarding reading comprehension (Knight, 1994; Fraser, 1998). Different conclusion will be drawn on the basis of these findings. On the other hand, the role of dictionary use in vocabulary development will be more encouraging for second/foreign learning in that the look-up behavior is supposed to create a deeper trace in the learner's memory and thus regarded to be conducive for vocabulary learning. However, it is crucial to make clear a few misunderstandings (Fraser, 1998). Meanwhile, types of dictionaries to be adopted will be a subsequent concern if we find dictionary use worth recommending for vocabulary learning. Although the status of monolingual dictionaries is always considered superior to that of bilingual ones, the preference for bilingual dictionaries among language learners is overwhelming that the advantage of this type of dictionaries cannot be neglected (Baxter, 1980; Tomaszczyk, 1983; Laufer & Kimmel, 1997). Therefore, a new kind of dictionaries will be suggested and its effectiveness is confirmed in recent experiments.

Dictionary Use for Reading Comprehension

Dictionary use for comprehension is often discussed in studies of second/foreign language reading, but is always discouraged by language teachers. It is usually claimed that dictionary use requires a substantial amount of time both in consulting the dictionary and in choosing an appropriate lexical entry for polysemous items where multiple meanings are given so that it is generally believed to interrupt reading comprehension (Carrell, Devine & Eskey, 1988). Earlier research studies seemed to support this conception. For instance, the study by Bensoussan, Dim & Weiss (1984) tried to investigate the effects of dictionary use on reading comprehension tests. While advanced EFL learners studied reading texts under one of the following conditions: no dictionary, monolingual dictionary, and bilingual dictionary, it was found that the access to dictionary did not enhance performance in reading comprehension tests.

In recent years, the general belief that use of dictionary would impede reading comprehension was shown to only reflect partial truth. Research into dictionary use during reading arrived at a different conclusion that, although this strategy does affect reading speed, it does not automatically imply that it also impedes reading comprehension (Knight, 1994; Fraser, 1998). Access to a dictionary could, on the contrary, increase reading comprehension. In his study, Knight found that dictionary use increased comprehension and enhanced vocabulary learning. Students learning Spanish were provided with either condition: access to dictionary or no dictionary. They were required to read Spanish magazine articles and tested on their comprehension and vocabulary learning. Perhaps unsurprisingly, it was learners of low L1 verbal ability (as measured by the American College Test) who benefited most from access to dictionaries. They performed significantly better both in comprehension and vocabulary tests than no dictionary groups of the same verbal ability (Knight, 1994). Although the study did show that dictionary use prolonged, and in a sense, interrupted the reading process, it revealed that dictionary use does not impede reading comprehension for low-level readers.

Comparing the experimental designs of Bensoussan *et al.* (1984) and Knight (1994), we could find that the contradictory results found in Bensoussan *et al.*'s are

due to the higher proficiency of the subjects. The percentage of actual using a dictionary while reading is actually very low and cannot be a direct link to performance in reading, a reason suggested by Fraser (Fraser, 1998: 79).

At this point, we would like to take the stand that dictionary use is helpful for reading comprehension. To help the learner use a dictionary effectively, a closer examination of the look-up process may provide us with useful guidelines. Think-aloud data were collected while Chinese learners of German read two German articles (Wingate, 2004). They were allowed to look up unknown words and provided with monolingual or bilingual dictionaries, or new definitions written in the style of Collin COBUILD English Dictionary. It was found that the learner always failed to find an appropriate meaning in an entry for the reading texts and the failure was found to result from either the practice of only searching for a seeming synonym or the habit of always picking up a familiar meaning without consideration paid to its context (Wingate, 2004: 8-9). This finding echoes the suggestions given by Schofield that, apart from the initial stages of looking up target words following the alphabetical order of the dictionary, an effort should be made to differentiate among the polysemous senses of most words and choose an appropriate one to match the context (Schofield, 1982: 189). This step is most influential because the success in selecting a proper sense concerns the effectiveness of dictionary use, and unfortunately, learners of whatever proficiency levels lack the strategy. It is finally concluded that the language learner needs to be taught about the strategy of how to identify a proper sense within an entry. Much practice is required in the classroom, and, as language teachers, we are supposed to provide this kind of training.

Dictionary Use for Vocabulary Learning

Dictionary use for vocabulary learning is considered more fundamental for vocabulary development than for reading comprehension. However, disagreements exist and arguments mainly grow out of the assertion that vocabulary should be learnt from context, where the specific properties of lexical items and the fine distinctions between similar words can be revealed. On the contrary, since most dictionaries arrange lexical items in individual, dictionary use will implicitly

encourage the learner to learn new words in isolation. This runs against our beliefs as language teachers and therefore is discouraged. Before we make any suggestion, the effects of dictionary use on vocabulary development will be discussed by reviewing findings obtained from empirical research.

First of all, one merit of dictionary use in second/foreign language learning is that this strategy can train the learner to learn the target language independently and reduce his/her reliance on the teacher (Horsfall, 1997). While the learner's autonomy is greatly praised and encouraged, this strategy help achieve this goal in language learning process. Secondly, given that dictionary is generally regarded as a type of reference materials, the practice of dictionary use is considered able to facilitate the skill of transferring knowledge from the dictionary to the learner's memory and store it in long-term memory for subsequent use (Horsfall, 1997: 8). In education, this skill is important in every field of knowledge acquisition (Horsfall, 1997: 8). In addition, in the interviews with second language learners, Gonzales found that dictionary use is a frequent strategy pursued by the learner when encountering unknown words in a text and therefore cannot be neglected since it satisfies the learner's vocabulary needs in respect of both breadth and depth knowledge (Gonzalez, 1999: 269).

Evidence is also found for the positive role of dictionary use in vocabulary development. Luppescu & Day revealed that dictionary use had a facilitating effect on short-term word retention (1993). In their study, subjects in treatment groups were allowed to use dictionaries while reading a short story, whereas those in the control group were not. An immediate vocabulary test was conducted and the result showed that the treatment group scored significantly higher than the control group. Apparently, Luppescu & Day's study demonstrated the benefits of dictionary use on vocabulary learning (Luppescu & Day, 1993).

More intriguing information is revealed in the research by Hulstijn, Hollander, & Greidanus (1996). Dutch learners of Spanish were subjected to three different learning conditions: provision of marginal glosses, access to dictionaries and a control group without any aid while reading. After they were required to read a short story, they were tested on their retention of target words. Although it was found that the performance of learners with access to marginal glosses was

significantly better than that of the other two groups, the scores for word retention for those words which were looked up by learners with access to dictionaries were actually higher than those of learners in the marginal gloss group. It means that, when a word was looked up, it was more likely to remain in the learner's memory. Therefore, this research proved that dictionary use can enhance vocabulary learning but not comprehension in that it engages the learner in a form-meaning relationship, which is considered the initial step of vocabulary development (Hulstijn *et al.*, 1996).

In second/foreign language teaching, the optimal time to promote dictionary use may be one of pedagogical concerns. The extent of the learner's needs or motivation to use a dictionary may provide vital information about how and when to promote such a strategy. This is what Hulstijn showed in another study (Hulstijn, 1993). By adopting a computer-based procedure, the researcher simultaneously investigated the effects of three variables, i.e. reading goal, word relevance, and word inferability, and questioned the extent to which they would affect the learner's look-up behaviour. Dutch learners of English in high schools were selected as subjects. They read English texts via a computer and were tested on their FL reading comprehension, inferring ability, and FL vocabulary. The followings results were considered valuable. First, it showed that the higher degree of the relevance of target words to reading goals (either summarizing the text or answering questions about the text), the more frequently learners would consult a dictionary. This finding can guide language teachers when and how to encourage dictionary use. Second, learners who scored higher in the vocabulary test would consult a dictionary less often. It means that the existing vocabulary knowledge of learners has crucial effects on their look-up behaviour and needs to be taken into account in promoting dictionary use. This research actually provides us some guidelines in promoting dictionary use.

In a large-scale study, Fraser investigated three vocabulary learning strategies, including: ignoring, consulting (dictionaries or experts), and inferring (Fraser, 1999). In reading a text, one could choose to neglect an unknown words, look it up in the dictionary, or make an inference about its meaning. In this experiment, these three strategies were first introduced to the learner so as to establish what they were,

how they worked and why they were important in dealing with unknown words. This was followed by a phase of practice in using these strategies. Think-aloud protocol data were collected by interviewing individual learners. The result of the data analysis revealed that reading comprehension increased as a result of successful determination of word meanings using the strategies of consulting and lexical inferencing. In particular, when the learner first attempted to infer the meaning of an unknown word and subsequently consulted a dictionary, he/she could retain higher proportion of word meanings. It was therefore recommended by the researcher that the learner could be advised to guess the meaning of an unknown word before using a dictionary, then verify this inferred meaning by consulting a dictionary, and then repeat the word and elaborate its meaning to create a deeper trace in memory. (Fraser, 1999: 236).

As widely acknowledged, learning words from context is regarded as an essential way of vocabulary learning in second/foreign language learning, and "incidental learning" is highly recommended. It has been claimed that second/foreign language learners, like L1 learners, will gradually acquire vocabulary during the process of reading without any explicit intention paid on word meaning (Hulstijn, 1992; Hulstijn *et al*., 1996; Paribakht & Wesche, 1997; Huckin & Coady; 1999). Research also suggests that incidental learning can produce greater effects on vocabulary learning when combined with the use of dictionaries because a dictionary provides a valuable opportunity to verify the word meanings inferred from the context. As a matter of fact, verification is considered as a crucial step in vocabulary development (Nation, 1990; Mondria & Wit-de Boer, 1991; Hulstijn, 1993).

To make a final conclusion as to the role of dictionary use in vocabulary development, Fraser suggested that consulting a dictionary during the process of reading is found not only to enhance reading comprehension but also contributes to vocabulary development (Fraser, 1998). Three functions of this strategy are considered to be crucial for long-term memory. First, the learner's attention would be focused on the form-meaning connection while looking up a word in a dictionary. Noticing this relationship is the first step to learning a new word. Second, while searching for the meaning of a word, the learner rehearses the word

and forms a temporary representation in working memory. Rehearsal offers an opportunity for information to stay in the memory longer. At the last stage, after locating the word in a dictionary, the learner has to choose the proper part of speech to fit into the text, make an analysis of its grammatical properties, and even relates it to existing knowledge or to L1 words. This is an elaboration, which involves deep processing and creates deeper traces in memory (Fraser, 1998: 84). These three functions lead to a better chance for an unknown word to be retained in long-term memory.

Types of Dictionaries

After the role of dictionary use for vocabulary development has been established, the issue of the quality or usefulness of different types of dictionaries becomes the subject of a vigorous debate, especially between the use of monolingual vs. bilingual dictionaries in relation to second/foreign language learning. Monolingual dictionaries are generally considered superior to bilingual dictionaries, as pointed out by Bejoint (1987) and McCarthy (1990). The inadequacy of bilingual dictionaries in establishing the learner's second/foreign language lexicon lies in the difficulty of finding absolute equivalents in different languages (Snell-Hornby, 1984: 275). The translation equivalents of the native language used in bilingual dictionaries approximate to the meaning of the target language lexical item only to a degree (Snell-Hornby, 1984: 276-8). The degree then varies with different domains, with a higher one existing in lexical items referring to common terms and the lowest in those containing cultural-related elements (Snell-Hornby, 1987: 165-6). In addition, this problem is worsened when taking into account the factor of the contextual use and pragmatic functions of the lexical item. That is, highly polysemous words require context if the reader is to recover the intended meaning (Bejoint, 1987: 101). These arguments cast doubt on the effectiveness of bilingual dictionaries because the effort of trying to pin down a definite meaning for a foreign word with translation equivalents is neither logical nor practical. The presumed "one-to-one" relationship between words in the native language and the target language will greatly impair the vocabulary development on the learner (McCarthy, 1990: 136).

A further objection pointed out by Baxter is that, if the bilingual dictionary provides equivalents in the native language, the learner does not have the opportunity to develop the ability to define a word (Baxter, 1980). In contrast, the use of monolingual dictionaries can train the learner to develop the ability to define words by reading the definitions provided in monolingual dictionaries. It is therefore claimed that the capability of monolingual dictionaries to promote this ability surpasses the usefulness of bilingual dictionaries (Baxter, 1980: 330).

However, the preference for bilingual dictionaries over monolingual is found to be so robust (Baxter, 1980; Hartmann, 1987; McCarthy, 1990; Laufer & Kimmel, 1997) that it is not only difficult but also often impractical to force the learner to give up the habit of using bilingual dictionaries (Hartmann, 1987: 22). It is not only learners of low and intermediate proficiency who rely heavily on bilingual dictionaries, but also advanced learners, who consult this type of dictionary more often than their monolingual counterparts (Tomaszczyk, 1983: 46). Affective factors are assumed to be involved in this kind of strong preference for bilingual dictionaries. The learner always feels more secure when he/she can access the translations or explanations in the native language (Laufer & Kimmel, 1997: 362). Presumably, one major obstacle in the use of monolingual dictionaries is that the learner cannot easily understand the definitions or target language synonyms. The definitions are especially difficult for learners of low and intermediate proficiency (Bejoint, 1981; Thompson, 1987; Horsfall, 1997; Laufer & Kimmel, 1997; Gonzalez, 1999).

Because of these conflicts, the need for a new kind of dictionary is raised by Thompson (1987). After reviewing the advantages and disadvantages of monolingual vs. bilingual dictionaries, Thompson advocated that bilingual dictionaries can be a more effective dictionary than monoligual ones because they are able to take care of the linguistic incapability and emotional needs of the learner, but a new kind of dictionary is needed to be devised in order to overcome those recognized shortcomings of traditional bilingual dictionaries. As a consequence, the idea of using a "bilingualised" dictionary is later proposed. A "bilingualised" dictionary displays both target language definitions and native language translation equivalences simultaneously (Laufer, & Kimmel, 1997: 363). The following is an

example of an entry in a bilingualised dictionary.

> Delay   v., vi.,
> 1. (cause sb to) be slow or late 使（某人）慢或遲到；耽擱；延誤
>   Don't delay!   Book your holiday today!
> 2. put (sth) off until later; postpone 推遲某事；延期
>   We must delay our journey until the weather improves.

(Oxford Advanced Learner's English-Chinese Dictionary, 2002: 377)

It is clearly to see that the English definition and the Chinese translation are placed side by side in this dictionary. The learner can choose to learn the meaning of this target word from the Chinese translation if he/she feels more comfortable; but he/she can alternatively learn from the English definition if that is more suitable for his/her needs. By providing both kinds of information at the same time, this type of dictionary is argued to be able to meet the needs of most language learners, whether they chose to focus on the bilingual or the monolingual part.

Bilingualised dictionaries are not a new type of dictionaries but its effectiveness is established by recent experiments and accordingly arouses more attention. Research was set out to explore the relative effectiveness of three types of dictionaries: monolingual, bilingual, and bilingualised dictionaries (Laufer & Hadar, 1997). A list of fifteen target words were introduced in three dictionary types (with five words for each type) and given to high school and university learners of English. Comprehension tests of the target words revealed that the subjects reading the entries introduced by bilingualised dictionaries scored higher, though their abilities in using a dictionary vary and thus produced slightly different results.

Conclusion

From the above discussion, the role of dictionary use has been shown to be helpful in reading for learners of lower proficiency and particularly beneficial for vocabulary development for learners of all levels of proficiency. Suggestions have

also provided in relation to how and when to promote such a learning strategy. Needless to say, much practice is required to make best use of it on the part of the language learner. The language teacher needs to know how to help the learner by giving proper training or sufficient instruction. For appropriate type of dictionaries to be adopted, it relies heavily on learners' variables, such as their affective needs, the proficiency levels, or the existing vocabulary knowledge of learners.

Finally, it remains to be addressed how we can integrate this strategy, dictionary use, into our instruction. It seems to be most necessary for learners of lower level, but optional for more advanced learners. Pedagogical lessons or programs need to be devised and this task will be left for future research to investigate relevant factors.

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