

Intentional or Incidental? ——An Overview of L2 Vocabulary Acquisition

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Keywords: Vocabulary acquisition, Intentional vocabulary acquisition, Incidental vocabulary acquisition

Abstract: Vocabulary acquisition, a seemingly daunting task at first, can be achieved with diligence, enthusiasm and perseverance on the learners part. The instructor should be well versed with both intentional and incidental means of learning vocabulary, with each playing its proper role at different stages, which can be used in different combinations to maximize learning effects. Drawing references to some of the most important studies undertaken in this field so far, with some of the major pedagogical dilemmas in mind, this paper endeavours to analyze the respective and combined uses of the two approaches to learning L2 English words, along with word-guessing strategies from context. A Chinese learners perspective is considered, and implications are drawn out for EFL teachers and learners.

1. Introduction

Having established itself as a predominant global *lingua franca*, English has become a repository of knowledge in various disciplines. Therefore, keeping the increasing global interconnectedness in mind, learning English has great practical implications for learners from all walks of life. It has been widely agreed that grammar and vocabulary are the two most important building blocks of second language acquisition (SLA). Of the two, vocabulary is the component that takes the most time and effort. In 1999, Thomas Huckin and James Coady wrote that “after decades of neglect, L2 vocabulary learning has become, in the past dozen years or so, an object of considerable interest among researchers, teachers, and materials developers.”

What is the vocabulary-size threshold beyond which the learner is then capable of comprehending the text by inferring word-meanings? How should we balance intentional with incidental learning components in the curriculum so as to maximize learning effectiveness and efficiency? Such are questions worth reviewing. What is the theoretical foundation of the top-down model, and what are its limitations? With these apparent dilemmas in sight, this paper endeavours to analyze the issues of intentional and incidental vocabulary learning and acquisition, while providing a Chinese English learner’s perspective, with practical insights and feasible suggestions to EFL teachers and learners.

2. Theoretical bases of vocabulary acquisition

As Dodigovic, Jeaco & Wei pointed out in 2017, vocabulary research is one of the fastest growing areas in applied linguistics and TESOL. Hence, it is necessary to review here some of the major studies undertaken so far. As Huckin and Coady (1999) pointed out in their review article, “Most scholars seem to agree that, except for the first few thousand most common words, vocabulary learning predominantly occurs through extensive reading, with the learner guessing at the meaning of unknown words. This secondary type of learning is called incidental learning because it is a by-product, not the target, of the main cognitive activity, reading.”

They went on to state that “Incidental learning of vocabulary has certain advantages over direct instruction, including the following: a) It is contextualized, giving the learner a richer sense of a word’s use and meaning than can be provided in traditional paired-associate exercises, b) it is pedagogically efficient in that it enables two activities—vocabulary acquisition and reading—to occur at the same time, and c) it is more individualized and learner-based because the vocabulary being acquired is dependent on the learner’s own selection of reading materials.”

2.1 Incidental vocabulary acquisition

“Incidental vocabulary acquisition” was first proposed by Nagy, Herman and Anderson in 1985. Several hypotheses have been proposed regarding this topic. In 1989, Stephen Krashen, reviewing 144 studies, argued for the role of his Input Hypothesis in incidental vocabulary acquisition, namely,

that reading provides comprehensible input, which leads naturally to acquisition. Krashen's claim seemed unquestioned by many L2 vocabulary researchers and theorists. However, as Lawson and Hogben (1996) noted, many analysts "do not always clearly draw the distinction between comprehension of word meaning in context and the acquisition of word meaning from context."

Proposed by Craik and Lockhart in 1972, the depth of processing hypothesis states that mental activities which require more elaborate thought, manipulation, or processing of a new word will help in the learning of that word. Craik and Lockhart thought it more useful to focus on the encoding operations themselves and to consider the proposal that rates of forgetting are a function of the type and depth of encoding. They therefore suggested that memory trace persistence is a function of depth of analysis, with deeper levels of analysis associated with more elaborate, longer lasting, and stronger traces. "Retention is a function of depth, and various factors, such as the amount of attention devoted to a stimulus, its compatibility with the analyzing structures, and the processing time available, will determine the depth to which it is processed."

The idea of selective attention was corroborated by Paul Nation and Coady in 1988, who pointed out that "the very redundancy or richness of information in a given context could also predict that the same reader is less likely to learn the word because he or she was able to comprehend the text without knowing the word." In other words, as Lawson and Hogben (1996) stated, "A less rich context, or an unsupportive one, would require the reader to pay more attention to a detailed analysis of the word. In that case, if the reader wished to build a representation of the text, it would be necessary to use other deliberate procedures for analysis of the word." This corroborates Schmidt's argument in 1993 that "at least some degree of conscious attention is necessary for incidental learning."

Huckin and Coady stated that attention was clearly related to purpose, which was in turn governed in large part by task demands. Wang (2010) summarized that, from 1940 to 1965, scholars of second language acquisition often used whether the student was told beforehand about being tested later on as the criterion for distinguishing intentional from incidental learning. That is, learning in preparation for testing was considered intentional, whereas learning not for the sake of testing was considered incidental. Joe in 1995 found that task demands, namely attention, retrieval, and generation, led to a significantly higher level of incidental vocabulary learning.

Paribakht and Wesche in 1997 confirmed the relationship between task demands, learner attention, and learning outcome, finding that "learners attend to those words that they perceive as relevant to performing a given task, and these differences lead to differential vocabulary learning outcomes." Thus, considering all of the above, and as Paribakht and Wesche noted, the learner's such activity "is in some fundamental sense not incidental."

In Li and Tian (2005), McGech also questioned the idea of incidental vocabulary acquisition *per se*, pointing out that it would quite risky to claim there to be such thing as incidental acquisition in the absolute sense.

2.2 Intentional vocabulary acquisition

The above conclusions prompt us to thus consider the behaviourist tradition of paired-associate learning, such as word lists and flashcards, which came under criticism in the 1980s, and was replaced by communicative approaches such as Krashen's claim, that deliberate learning is not useful, because it does not affect the acquisition of linguistic knowledge.

Krashen argued that linguistic knowledge is acquired only when the learners attention is focused on the message, not form. More recently, however, Irina Elgort and Nation (2010) have found that naturalistic usage-based learning needs to be supplemented by form-focused learning. Elgort's (2011) study tested "whether vocabulary knowledge gained through DL (deliberate learning) is stored and accessed in a manner that is similar to existing L1 and L2 lexical knowledge, which L2 speakers draw on in real language use. The results suggested that, as far as L2 vocabulary is concerned, the hypothesis regarding the learning/acquisition dichotomy is not justified."

What about the instruction and acquisition of collocations? Arnaud and Savignon's 1997 study compared knowledge of idiomatic collocations and low-frequency words by 34 experienced nonnative English teachers in France. These teachers could match university-level native speakers in their knowledge of low-frequency words, but not in that of idiomatic expressions. The conclusion was that, in a foreign-language setting, incidental exposure to multiword phrases is inadequate for acquisition and that such phrases should be taught directly.

Hoey in 2005 suggested that native and nonnative learners do not differ in how they acquire collocations, and that it mainly depends on the type and amount of input they receive. Sonbul and Schmitt (2013) compared native and advanced-proficiency nonnatives to explore Hoey's claim, and found neither group to have developed implicit collocational knowledge. "Both natives and nonnatives showed clear evidence of durable learning of explicit knowledge under all treatment

conditions with one direct condition (decontextualized for native and enhanced for nonnatives) showing an advantage over the indirect, enriched condition.” The results thus seem to support Hoey’s claim.

Toomer and Elgort (2019) supported Sonbul and Schmitts (2013) findings about explicit knowledge, and furthered them into the implicit. This study found that “repeated encounters with collocations in reading promote the development of collocational knowledge. In addition, typographic enhancement (such as bolding) promotes the development of explicit knowledge, while the absence of typographic enhancement is more likely to promote the development of implicit knowledge.”

3. Issues arising from practice

Having discussed intentional and incidental vocabulary acquisition, let us consider some of the issues arising from the pedagogical practice of using the two approaches in separation and combinations. How should the instructor determine when to use the former, when the latter, and when to transition from one to another? Whether and how should the L2 learner guess word-meanings from context? In what ways is L2 meaning-inferencing the same and different from that for the L1 reader? How do most Chinese students learn vocabulary, and how do some of their practices work out, which are often considered “rote” learning by Western researchers? These are questions worth probing into for both teachers and learners.

3.1 The threshold between intentional and incidental acquisition

The above findings, hinting at the importance of non-incidental learning, seem especially true for the first few thousand or so words that the learner has to master before he or she can go on to learn words more or less on his or her own. Some scholars have ventured to find out the threshold level that enables the learner to infer word-meanings when reading. For instance, Nation & Hwang in 1995 argued that knowing 2,000 words will enable the reader to know 84% of the words in an article, thereby allowing incidental vocabulary acquisition to happen; yet Laufer in 1997 believed that this is only possible with 3,000 words and knowing 95% of the words in an article, and in the case of L2 learning, one has to know 5,000 or more, which is 98% of the words in an article.

In his landmark study, Nation (2006), reporting on the trialing of fourteen 1,000 word-family lists made from the British National Corpus, made use of them to see what vocabulary size is needed for unassisted comprehension of written and spoken English. Results by Nation showed that “if 98% coverage of a text is needed for unassisted comprehension, then an 8,000 to 9,000 word-family vocabulary is needed for comprehension of written text and a vocabulary of 6,000 to 7,000 for spoken text.” Hazenberg and Hulstijn in 1997 argued that the minimal vocabulary size needed for university studies is 10,000 word families. This represents 99-100% coverage of university-level texts.

3.2 Top-down and bottom-up approaches to word-guessing from context

As regards guessing L2 words in reading, Liu and Nation (1985) believed that background knowledge of the subject matter plays a critical part in successful guessing. They contended that the guessing strategy “is best introduced as a class activity, concentrating on verbs and nouns which have plenty of known surrounding context.” They concluded that “once learners master the skill, they should be able to guess at least 85% of the unknown words that they meet.”

Li and Tian (2005) argued that, because incidental acquisition relies to a great extent on word-guessing ability, learners with large vocabulary sizes can often take fuller advantage of contextual clues to guess the words’ meanings. Laufer in 1997 believed a 95% vocabulary coverage to be the bottom line, with which a 60% comprehension of the text is possible.

However, Huckin, Haynes and Hei (1996) questioned the validity of modeling L2 word-guessing from context after the L1 approach. They argued that, studies have shown several apparent problems with L2 learners guessing words from context. That is, if the reader believes he or she has already identified the form, he or she will simply understand the word with its ordinary meaning, without ascertaining it from the context.

Therefore, form identification plays a critical role even prior to guessing from context, in that it reminds the reader whether it is necessary to do the guessing. Also, L2 learners, lacking in sufficient lexical knowledge, tend to misuse contextual clues. In addition, a single context rarely provides the L2 reader with enough information for adequate guessing. Such imprecision in guessing shows that, only by meeting a certain word in different types of contexts, can one clearly know the meaning of a word. And lastly, successful word-guessing also requires considerable background knowledge.

Indeed, whether inferencing and contextual word-learning are suitable for ESL learners is a point in question. How does the problem of incorrect inferences correlate with the learners proficiency? In a 2017 study on incorrect inferences and contextual word learning in English as a second language, Elgort suggested that negative effects of making incorrect inferences from reading diminish as L2 readers' proficiency increases. It can therefore be concluded that inferencing is not without benefits, and this has also to do with the depth of processing hypothesis discussed earlier.

On the other hand, Huckin, Haynes and Hei warned of problems associated with overreliance on the contrary, bottom-up approach, such as that direct instruction of more than forty thousand words will occupy a large amount of time, and overburden L2 learners and teachers. As well, focusing entirely on individual words will inhibit the students' development of reading skills and metacognitive monitoring skills, which is counterproductive to the effective use of instruction time, and does not lead to their learning how to build their own vocabulary through reading. Lastly, learning words in an isolated fashion tends to bring focus only to the words most common meanings, thus making it difficult for the language user to interpret certain words according to specific contexts.

Thus, Huckin, Haynes and Hei concluded that the most effective path to L2 reading and word-guessing is a complementation of the top-down and bottom-up approaches. They argued that an ideal bottom-up process should include fast, spontaneous activities, such as letter-identification, word-scanning, and semantic analyses. And the top-down is an even more skilled activity, which should be carried out consciously and purposefully. It monitors the entire reading and guessing processes, to ensure that they do not digress from the main course.

3.3 the Chinese perspective

Now, let us look at how the existing theories have been applied in the Chinese context. In his 2003 landmark study entitled *Fine Brush and Freehand: The Vocabulary-Learning Art of Two Successful Chinese EFL Learners*, Peter Yongqi Gu studied two successful non-English-major EFL learners at Beijing Normal University. The study involved a think-aloud and an interview session. Results shed light on Chinese conceptions of learning and, more specifically, the so-called rote learning strategies often deemed mechanical by (Western) teachers and researchers. The two subjects "demonstrated some patterns of strategy use that were different from those reported in other learning contexts" (Gu, 2003).

In China, a number of studies (Gan and He, 2015) have indicated that learners with larger vocabulary sizes and higher reading competence learn more words and more effectively. This also indicates the Matthew effect in vocabulary acquisition; it confirms the importance of a well-developed core vocabulary (even just for incidental acquisition). In 1996, Qian found that decontextualized L2 vocabulary learning with feedback was more effective for 63 Chinese university students than contextualized learning without feedback.

4. Implications for EFL teachers and learners regarding vocabulary acquisition

What implications do the studies conducted up to this point have for EFL teachers and L2 learners? First of all, researchers disagree as to which form of instruction is the most effective. While researchers such as Krashen and Robert DeKeyser argued in favour of exposure to input and meaning-focused instruction, others, such as N. Ellis, Laufer and Nation stressed the importance of higher levels of language awareness, more form-focused instruction and more explicit learning than in L1 vocabulary acquisition.

Explicit learning is much more prominent in L2 than L1 vocabulary acquisition, due to factors such as the relatively small number of words used in everyday spoken English discourse (which makes it difficult to master a large vocabulary incidentally), to the lower probability of L2 learners learning words from reading compared with native speakers, and to the fact that incidental learning is best accomplished in contexts where most (95% to 98%) of the running words are known. In other words, while incidental vocabulary learning is effective, it has to be built on a solid foundation laid down by deliberate methods, so as to give learners a head start in functioning with the English language.

As Elgort and Nation (2010) argued, "incidental usage-based learning from context or interaction needs a boost from form-focused deliberate learning for L2 lexical development to be successful." For one thing, deliberate learning of L2 words is efficient and convenient. It is an economical way of learning English within a relatively short period of time. Many deliberate learning methods are helpful in enhancing vocabulary acquisition, such as flash-cards, word lists, vocabulary notebooks, rehearsal, mnemonics, semantic mapping, reading, and interacting with members of target language communities.

Deliberate learning is grounded in solid theoretical foundation. Nation suggested that people are able to memorize between 30 and 100 new words (L2-L1 associations) per hour from bilingual word pairs. Deliberate learning is therefore practical with the first few thousand words below the threshold level for incidental learning to be effective. Hence, at the beginner stage, teachers should make wise use of deliberate instruction and learning.

As Elgort and Nation (2010) pointed out, deliberate learning is “also appropriate when speedy acquisition of specialized or technical vocabulary is needed, for example when engaging in business negotiations with a foreign company or enrolling for a university degree in a foreign country.”

While deliberate learning has been proven effective in achieving explicit word knowledge, the question has been posed as to whether it can lead to implicit linguistic competence in L2, which is harder to acquire than in L1. Breakthroughs in recent years shed a positive light on this question, and confirm the effectiveness of deliberate learning in achieving both types of linguistic competence. Experiments by Elgort showed that deliberately learned L2 words directly entered implicit as well as explicit knowledge. However, it has also been found that the quality of these representations their integration into the existing memory structures are not as robust as those that exist for known L2 words. Elgort’s experiments suggested that deliberate learning needs to be supplemented by other types of learning, for example, repeated exposure to new vocabulary in various meaningful contexts, and learning that encourages deep processing of meaning.

Again, contextual learning must have deliberate instruction as its premise and foundation, because while the numbers of encounters with a new word in reading is a major predictor of gains in explicit word knowledge, contextual learning is more problematic for less proficient L2 readers even at multiple encounters. Paribakht Wesche’s 1997 empirical study compared incidental vocabulary learning through reading, with incidental vocabulary learning through reading coupled with vocabulary instruction, and found that the latter led to quantitatively and qualitatively superior gains.

Also, Elgort and Warren’s (2014) study suggested that robust lexical representations are more likely to be established for key content words, words that are more frequent in the text than generally in the language. In other words, “by chunking their readings by topic, L2 readers may facilitate the development of high-quality L2 word knowledge.”

Some studies suggested that some kinds of reading texts are more conducive to incidental learning than others—in particular, texts that are personally interesting to learners—which corroborates Krashen’s affective filter hypothesis, in which affect refers to non-linguistic variables such as motivation, self-confidence, and anxiety.

Here, it is pertinent to refer to Nation’s 2007 four strands framework, which includes: 1) meaning-focused input, 2) meaning-focused output, 3) language-focused learning, and 4) fluency development, with the first two emphasizing the role of Krashen’s meaningful comprehensible input and Merrill Swain’s opportunities to develop more precise knowledge through production. Language-focused learning relies mainly on deliberate learning and language-focused (or form-focused) instruction; fluency development is about helping learners make the most of what they already know, using known vocabulary to practice receptive and productive L2 word knowledge. In sum, this framework is an ideal model for instruction, which incorporates both incidental and deliberate word learning strategies in facilitating language input and output, thus maximizing lexical development. Of course, it should also be pointed out that classroom instruction alone is insufficient, and is by no means substitute for interacting with native speakers and engaging in real language use.

As the Chinese saying goes, “Giving somebody fishes is not as good as teaching them how to fish.” Learners should combine contextual learning with deliberate word learning and vocabulary learning strategy training. One point for teachers to consider is that, instructed vocabulary acquisition should also provide opportunities for developing fluency of L2 lexical processing. The teacher’s job is not only to guide students in learning, but also to inform students on why they need lexical processing strategies (LPS) in this stage of learning, and how they could make the best use of them.

All things considered, deliberate learning is a necessary and crucial component in vocabulary acquisition, for it helps to lay a solid foundation of basic and core vocabulary knowledge for learning in the years to come. Therefore, while acknowledging the merits of incidental learning, educators and learners should not do away with deliberate learning altogether, but should rather strike a balance between the two, especially at the early learning stages, but no less at the advanced ones.

5. Conclusion

Given the limitations of scope, this paper by no means provides a comprehensive summary of all researches conducted so far, nor a conclusive analysis on intentional and incidental vocabulary acquisition. For one thing, the involvement load hypothesis, an important hypothesis relevant to L2

vocabulary acquisition, has not been discussed here. Neither has the critical period hypothesis and its possible relationship to L2 vocabulary acquisition been explored in this paper, nor the relationship between extensive and intensive reading, how to transition from one to another, and so on.

All in all, intentional and incidental vocabulary acquisition should be seen not as two opposing approaches to learning, but rather as complements to each other, playing similar and equally critical roles at different stages of L2 vocabulary learning. Intentional teaching is indispensable for building a solid foundation of core sight vocabulary needed for the learner to enjoy better comprehension of reading texts, and giving him or her a head start in using the L2. Different instructional methods can be used in intentional vocabulary teaching, including but not limited to flashcards, word lists, mimetics, exercises with recognition and recall tests, and so on.

For incidental learning to occur, the instructor should equip the students with adequate techniques of guessing word meanings from context, and can also apply input modifications such as glossing (with text annotations, pictures, or even videos, in the case of digital learning). More importantly, intentional and incidental learning components can be combined in creative ways to maximize learning effects. In vocabulary development, productive knowledge is as important as receptive knowledge, and the curriculum designer must be wise in devising curricula which lead to both. In addition, students should be taught vocabulary learning strategies, in order to become competent self-directed learners.

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