Word Recognition in FL Reading

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Abstract - Foreign language (FL) learner's ability to read is fundamental to academic success. Reading comprehension may depend on learner's cognitive and metacognitive skills, and learners naturally have different speed in reading, though it is possible to improve it by drilling and practicing with certain strategies. One of such strategies to help fluent reading is word recognition. Exploring the cognitive processes involved in visual and auditory word recognition has been a major challenge in cognitive psychology and psycholinguistics for the last few years. Researchers have focused on lexical variables affecting the speed and accuracy with which words are processed. Visual word recognition is the ability to identify words by sight and is one of the crucial building blocks of reading. When FL learners recognize words quickly, easily even automatically, they can reach better and fluent comprehension. The aim of this study is to determine whether word recognition strategies have a positive impact on reading comprehension of FL students.

Key words - reading comprehension, reading strategy, fluent reading, in context

INTRODUCTION

We read every day, from notes to emails, from academic articles to literature, and from advertisements to newspapers. Reading is an important skill for foreign language students to enrich their knowledge, exchange information, share ideas with others, and educate themselves in the globalized era. Although using reading strategies transferring from their L1 to the L2 is typical for most of foreign language learners, some students face difficulties in adjusting to reading in their L2, especially when there is orthographic mismatch between the L1 and L2. In any case, L2 students are somehow equipped with reading strategies in their L1, it does not mean all those strategies fit to the L2. Reading strategy knowledge in L1 contributes only partially to reading proficiency in the L2 (Bernhardt, Kamil, 1995). Foreign language students, therefore, might need to learn new and appropriate strategies to adapt to the new language system.

Word recognition, the basic aspect of vocabulary skill, is essential for fluent reading. Word recognition is automatic when the process takes very few of the attention resources available to the brain at any one time (Wolf, 2018). When word recognition is automatic, reading can be fluent, accurate, and expressive. In other words, if a student cannot recognize the printed words accurately and automatically, fluency will be affected, and in turn, reading comprehension will suffer.

The aim of the study is to define whether teaching word recognition strategies to FL students has a positive effect on their reading comprehension and whether the ability to recognize words in FL can be developed and improved by doing practice and drills.

We hypothesized that the more word recognition strategies FL learners possess, the better their reading comprehension outcome should be.

The author of the article considers that this survey has significance in FL teaching as knowing about how learners use context cues to recognize unknown words and decode them helps teachers analyze their learners' reading weakness, strengths and needs, and choose the appropriate strategies to teach.

In this research, we have focused on word recognition in context as it has a more direct impact on reading comprehension than word recognition in isolation where words are not embedded in a text. We assume that learners who poorly recognize words in isolation may perform better to recognize words in context as they might have the ability to use the context hints effectively to support their word recognition. However, we do not hesitate about the research result that strong word recognition performance in isolation has a positive effect on fluent performance in context.

LITERATURE REVIEW

One of the main skills in foreign language learning is reading. Researchers and experts seem to agree that learners may not conduct efficient reading without accurate and fast word recognition. In other words, the importance of word recognition in reading cannot be neglected. However, not all FL students reach the same satisfactory level of reading comprehension to meet the demands of curriculum. Feifei Han (2015, p58) claimed that the causes of poor reading comprehension may depend on individual's cognitive ability, namely interplay of cognitive processes at the (sub-) lexical, the syntactic, and the textual level. These processes include the abilities of decoding words accurately and fluently (Perfetti, 1985), linking single word meanings to form propositional units by semantic and syntactic integration processes (Kintsch & Rawson, 2010), and connecting and enriching the text's ideas with knowledge-based inferences (Graesser, Singer, & Trabasso, 1994) to produce a coherent mental model of the text content (Van Dijk & Kintsch, 1983). Poor reading comprehension is usually associated with deficits in one or several of these processes. The cognitive processes involved in recognizing written words and assigning meaning to these words seem to play a crucial role (Perfetti & Hart, 2002), particularly for FL beginners. When readers' lexical representations are less in quality or when their word recognition processes are poorly routinized, the cognitive processes on the sentence and the text level can suffer as well because of bounded working memory resources. Rosenshine and Meister (1994) said that efficient word recognition skills are often discussed as prerequisites for effective reading strategy trainings.

According to Wolf and Katzi-Cohen (2001), word recognition is a summation of accuracy and speed of meaning access through decoding of printed words. From this definition, it can be concluded that word recognition involves two sub-processes: 1) visual

decoding of orthographic forms of words and activating links between graphic and phonological codes (known as word decoding or phonological decoding); and 2) retrieving relevant semantic resources through a word dictionary in the mind referred to as a mental lexicon (known as lexical access or semantic access) (Jeon, 2009; Perfetti & Hart, 2001).

The origin of the concept 'L2 word recognition' traced back to Cattell's (1886, 1945) work. His findings include: 1) the time to recognize single letters was only slightly shorter than the time needed to recognize whole words. From this, Cattell inferred that individual letters are not perceived in word recognition, which became known as the "word superiority" effect, 2) word recognition in an L2 is slower than word recognition in an L1, and for single words, the difference is in the region of 10 ms, 3) the speed with which subjects can read words in sentences depends on how well they know the language. Even among fluent and balanced bilingual readers whose L1 and L2 are typologically and linguistically similar languages, such as English and French and English and Irish (Mack, 1986), the word recognition in L2 is much slower compared to their word recognition in L1. With increased exposure to FL print and accumulated FL reading experience, not only do learners' word recognition error rates decrease (Segalowitz, 1993), but also their word recognition speed increases (Favreau & Segalowitz, 1982; Haynes & Carr, 1990), and FL readers are able to achieve automaticity in FL word recognition.

Researchers agree that good readers are able to apply three linguistic cues to decode/ recognize words, and of course, using these three cues in combination makes reading process most efficient.

1. Graphophonic cues: 'Grapho' refers to letters, and 'phonic' refers to sounds. Graphophonic cues involve the letter-sound or sound-symbol relationships of language. Readers identifying unknown words by relating speech sounds to letters or letter patterns are using graphophonic cues.
2. Syntactic cues: Readers use this cue to assist with deciding whether the text sounds right. Syntactic cues can be challenging for FL learners as syntax structure rules of their native language may influence on their decoding process, especially between the typologically different languages.
3. Meaning (semantic) cues: Readers use this cue to find out what they are reading makes sense or not. Learners who master using meaning cues to decode words know not to violate sense. Yet learners who do not demand sense will not notice the violation.

Using combined cues definitely improves word recognition. Teachers, therefore, should try to help their students attend to all three cuing systems in combination when reading.

METHODS & PARTICIPANTS

In total, 104 freshmen majoring in English at the University of the Humanities, being divided into four groups, participated in the survey. The participants were all from intermediate-level group. The participants were divided into experimental and control groups based on their pre-test results to make sure they started at the same level. The two of the four groups were the experimental to whom word recognition strategies were conducted for eight weeks whereas the other two groups, the control, were not taught such strategies. The training materials, pre- and post-tests were developed by the author with her colleagues. All participants (experimental and control group) took a pre-test at the start and a post-test at the end of the investigating period. Over eight weeks, they had a 90-minute vocabulary class once a week where different strategies were applied.

There is a large number of strategies to improve word recognition skill, though we used the Word association strategy and Word games. The Word association strategy involves connecting unfamiliar words and familiar concepts or ideas. By associating an unknown word with something the reader already knows, it becomes easier to figure out what the word means without having to sound it out or look for clues from the surrounding text. Word games encourage learners to recognize and remember new words by making it fun and interesting. Word games such as crosswords, puzzles and word searches help FL learners not only improve their word recognition skills but also learn new topics in an enjoyable way.

The two ways to measure word recognition in reading/ context were applied in the survey: *Total Miscue Score*, which counts total number of miscues, and *Meaning Maintenance Miscue Score*, which counts only miscues that disrupt the meaning of the text. The three-category accuracy rate chart was used to determine whether the text was easy enough for independent reading, or appropriate instruction was needed to fully comprehend it, or too tough and demanding for the reader.

Accuracy Rate Chart

Independent	Easy enough for independent reading	95% -100%
Instructional	Instructional level for use in leveled reading session	90% - 94%
Frustrational	Too difficult and will frustrate the reader	89% and below

How to assess word recognition is a challenging task to do. Assessing word recognition identifies strengths and needs in sight vocabulary, decoding strategies, and assigning meaning to a particular word in context. As mentioned before, word recognition in isolation or in context are interrelated, but different. Only comprehension and word recognition in context combined provide a clear picture and sound metric for determining reading levels. In the survey, we used the following methods to measure the participants' word recognition. The method we used was *Recording Miscues*, which can tell us about learners' word recognition process as well as how they process information related to the word in a text. There are six types of miscues namely, omission, insertion, substitution, mispronunciation, transposition, and teacher aid. During our survey, four of them were noticed, excluding transposition and teacher aid. Except cognitive skills such as attention focus and attention distraction, poor eye sight was revealed as a factor that affected especially mispronunciation and substitution.

RESULTS

At the beginning of the survey, the data gathered in the pre-test revealed that there was no significant difference on the average scores of reading comprehension tasks (word recognition task) between the experimental and control groups. After eight weeks of the training, the average score of the experimental groups increased by 9%, the Total miscue score was 86%, and Meaning maintenance score was 98%. This shows that students from the experimental groups still make mistakes when recognizing the words in context and processing the input, but they seldom disrupt the meaning of the text. Their meaning maintenance stays significantly strong. Having the average score increased by 6% and getting 83% as a Total miscue score and 84% as a Meaning maintenance score, the word recognition performance of the control group was not satisfactory and in frustration range. Having no difference between their two types of word recognition in context scores means students of the control groups had trouble with cuing and connecting the word meaning with its context. Mastering the word recognition strategies helps FL learners guess the word meaning by using the context clue and attend to meaning when decoding unfamiliar words. In a word, it helps fluent reading. One of the challenging tasks conducting this survey was distinguishing which miscues distort or disrupt meaning and which ones do not as there is no scientific way of distinguishing between them. This measure is qualitative and subjective, requiring teacher judgement. These different miscues influence comprehension at different ranges. More clearly, miscues that maintain meaning are less damaging to comprehension.

CONCLUSION

The results of our survey revealed that the word recognition ability of the experimental groups who were engaged in mastering word recognition strategy class with explicit instruction improved, and their test scores increased over eight weeks of period. Conversely, the two control groups gained less benefit over the period. The result of the survey highlights the importance of promoting the mastery of word recognition strategies in fluent reading. In other words, word recognition is central for reading comprehension because students must accurately read and recognize most of the words in text to comprehend it well. If there is a large number of unrecognized or misread words in a text, it derails comprehension. Traditional methods, such as making learners memorize new words without context or giving the ready translation of new words in their native language, are not efficient any more. Instead of making students memorize new words, developing their word recognition skills might help students perform reading tasks better. Once word recognition is associated with individual's cognitive ability, fluent reading is important because it releases the cognitive and attentional resources necessary for reading comprehension.

SUGGESTION FOR FUTURE RESEARCH

This literature review of previous studies on word recognition in FL reading and small-scale survey suggest a few issues for further investigation. The first problem is consistency and validity in the measuring methods of word recognition. The tests and tools need to be adjusted to the different language learners or new versions that are suitable for the participants need to be developed. In addition, subjectivity in the measuring methods and tools needs to be avoided, at least reduced. The second one is that this kind of research requires interdisciplinary cooperation; linguistics, psychology, IT and so on. In this way, we can expect more reliable and valid research results.

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