

**What can Teachers do to Improve Reading Comprehension?:
An Examination of Second Language Reading Research and Implications for English Language
Teaching Practices**

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Abstract: This paper looks at English-as-an-additional-language (EAL) reading research and the implications it has for teachers. In particular, research focusing on second language (L2) reading comprehension is reviewed, deficiencies noted, and teaching methods reviewed.

Key Terms: EAL, L2 reading comprehension, teaching methods, second language research

Introduction

For citizens of the Western world, the ability to read is crucial in everyday life. Canada is a culturally diverse country, and, as a result, increasing numbers of students are learning English as an additional language (EAL). This paper examines the literature in second language (L2) reading comprehension, the research surrounding L2 reading comprehension, and the critical need to reflect on and/or review teaching practices in L2 reading classrooms. The focus will be on defining comprehension in relation to L2 reading; significant research breakthroughs in understanding how comprehension in L2 reading is achieved; and some commonly used methods in L2 reading pedagogy. What is to be demonstrated throughout this paper is that while great advancements have been made in language research to better understand the needs of L2 English learners, there is a need to assess whether or not research can be further incorporated into a teacher's decision making in order to enrich and improve the learners' reading abilities.

Comprehension

Comprehension is recognized as an acquired skill that is focused on the understanding of input. Oxford English Dictionary (2010) defines comprehension as "the action or fact of comprehending with the mind; understanding; ... grasping with the mind, power of receiving and containing ideas." Brown (2007) identifies comprehension as "the process of receiving language; listening or reading; input" (p. 379). Comprehension is the ability to take in information, analyze it in its respective segments, and come up with an understanding of the input in a cohesive and accurate manner. Well-developed comprehension abilities involve interactive strategy use to come up with a meaningful understanding of the input (Lin, 2010). Therefore, comprehension may not be exclusively devoted to input alone; it may also affect the

fluency of a learner's output. Fluency—the amalgamation of competence (one's underlying knowledge) and performance (one's overt, external actions or behaviours)—can be identified as an aspect of comprehension, as it can transfer comprehensible information to other aspects of language proficiency such as writing and speaking with little attentional effort (Brown, 2007; Grabe, 2010). Above all, comprehension can be identified as an interactive, strategic process which, when fully developed, results in reading fluency.

Types of Comprehension

Several different views have sought to accurately define L2 reading comprehension. A thorough literature review reveals that it is clear that there is no one kind of comprehension when it comes to reading. Brantmeier (2003) claims that there “is not one true comprehension, but a range of comprehension” (p. 4). Day and Park (2005), on the other hand, discuss reading comprehension in terms of several different types. In their research, they classify reading comprehension into six different modes of comprehension that can work together in parallel and/or in a linear fashion:

- *Literal comprehension* is described as the “understanding of the straightforward meaning of the text” (Day & Park, 2005, p. 62). This means that any answers to questions coming from a text would be explicitly outlined in the reading. An example of this would be discovering specific vocabulary items and/or their meanings within a text;
- *Reorganization* occurs when readers must find various pieces of information from a reading and combine them for additional understanding. In this way, readers still use literal comprehension, but it is applied to several areas of text in order to answer more specific questions related to the text (Day & Park, 2005);
- *Inference* requires learners to go a step beyond literal understanding and to combine and use their own knowledge in order to come up with answers to implicitly stated information (Day & Park, 2005);
- *Prediction* combines a reader's prior knowledge with his or her understanding of a passage in order to guess as to what happens next; each answer, however, must be supported by the text in order to be valid (Day & Park, 2005);
- *Evaluation* requires a learner to have a general knowledge of the topic under examination and an understanding of the reading material in order to give judgment or opinion about the text (Day & Park, 2005);
- *Personal response* is an open-ended type of comprehension used by readers in order to provide their feelings about the topic. In order to have a valid answer, they need to have reasoned their feelings in relation to the text (Day & Park, 2005).

When used in parallel with each other, these types of comprehension work very well as an overall approach to many different aspects of reading. However, each classification has its own weaknesses: Literal comprehension cannot account for abstract information such as tone and irony—reorganization is simply an extension of this, being literal in its own right; and

evaluation, prediction, personal experience, and inference are not possible without an adequate knowledge of the subject matter, in both parsing word for word and in depth contextually as a whole. To add to this, none of these types of comprehension accounts for cultural factors, which can be problematic when attempting to look at L2 reading patterns across various cultures. For instance, how can different cultures read the same passage and gain different interpretations of the text? This is an important question that must be taken seriously when trying to identify the weaknesses of contemporary language teaching in culturally diverse classrooms.

Factors that Affect L2 Comprehension

There has been extensive research in L2 reading comprehension, and over the last twenty years, there have been enormous breakthroughs in understanding significant factors including, but not restricted to, lexical processing (how the brain makes meaning out of input), eye movements, cultural familiarity, and first language (L1) effects. Such factors play enormous roles in reading comprehension for many different reasons and are discussed further in the following four subsections.

Lexical Processing

Lexical processing is a sequence of processes that are consciously utilized in order for an L2 learner to recognize and access the meanings of word-forms in a text (Tily, Fedorenko, & Gibson, 2010). Many of the reading skills required for fluency are gained through implicit learning and reading practice rather than from explicit language instruction (Grabe, 2010). In order to gain automatic access to words and their meanings, processing has to be practiced to a point that the lexical information contained in words takes less cognitive attention because it is easily recognized at surface value. In fact, many studies support the notion that extensive reading practice is the key contributor to reading comprehension improvement, as word recognition alone is often insufficient (Grabe, 1991; Grabe, 2010; Grabe & Stoller, 2001; Nassaji, 2003). Many studies advocate training learners to become automatic in word recognition for increased fluency (Chang, 2010), as automatic word recognition is crucial to fluent L2 reading comprehension (Grabe, 2010).

What has been found, though, is by no means insignificant. In terms of word frequency, high-frequency verbs are recognized and comprehended faster than low-frequency verbs because of ease of lexical access (i.e., how quickly one can access the meanings of these verbs in the brain) (Tily et al., 2010). According to Laufer and Ravenhorst-Kalovski (2010), higher levels of L2 reading comprehension are demonstrable through more fluent reading of frequent words, and through a higher proficiency of lexical decoding that lower-level readers do not possess because of a more limited vocabulary repertoire. They also stated that “the relationship between coverage (i.e., the amount that is read) and vocabulary implies that even a small increase in lexical coverage may be just as beneficial to reading as a larger increase in

coverage” (p. 24), which indicates that any minor improvement to vocabulary accounts for significant advancements toward increasingly fluent reading comprehension. Chun (2001) supports this, claiming that L2 learners with low proficiency in their second language rely more on vocabulary knowledge than learners with high proficiency.

In addition, there have been important morphological discoveries. Rayner (1998) and Nassaji (2003) found that the more morphologically complex a word is—that is, the more units of meaning a word has contained within the word-form—the longer it will take to analyze. L2 reading is more heavily reliant on lexical-semantic processing, (i.e., what words mean in context) than on syntactic processing (i.e., where words fits in the sentence. This indicates if word automaticity is reached, then sentence order (syntax) will be needed less during parsing than the content within the sentence itself in order to find contextual meaning. This is a significant realization in the quest for effective L2 reading strategies, as it clearly states that automaticity paves the way to L2 comprehension and overall fluency.

Eye-Tracking

Eye-tracking has become arguably one of the most fascinating topics to date in learning how the eyes contribute to information processing at a surface level before taking comprehension into account. Over the last twenty years, eye-tracking has discovered how different kinds of saccadic movements—rapid eye movements which encode visual information—relate to reading (Dussias, 2010; Rayner, 1998); how two languages are stored inside a human brain (Dussias, 2010); how these languages interact with one another (Dussias, 2010); and how perceptual span length—the visual field or region a reader has when fixating on text (Rayner, 1998)—has been consistently found across languages in relation to saccadic movement (Dussias, 2010; Rayner, 1998).

In any language, words are not read in a fluid manner: They are seen through saccadic movement and fixations which occur “halfway between the beginning and the middle of the word” (Dussias, 2010, p. 151). Between these saccadic movements, readers tend to pause on words in fixation periods between 200-250 ms/average (Dussias, 2010; Rayner, 1998; Rayner & Clifton, 2009). Saccades can be broken down into several types (Rayner, 1998; Dussias, 2010): *Rightward saccades* are used to perpetually move through the text, whereas the other four types are used to correct inefficient text processing (Rayner, 1998). *Regressions* occur when eyes go back a length of a few letters in order to reprocess a word that may not have been recognized properly during the fixation. According to Rayner (1998), this can be due to excessively long fixation periods through which the text is not correctly processed. Typically, if regressions move beyond a few letters, the indication is that the reader misunderstood the content. *Return sweeps* occur when a reader returns his or her eyes to an exact fixation point that caused trouble with processing. Higher-proficiency readers typically use this, as they can determine where in the text they ran into trouble. This is different from lower-proficiency readers, who *backtrack* through text they have already read until they discover where they ran

into comprehension trouble and then proceed to re-read the entire section all over again because of contextual knowledge loss (Rayner, 1998). *Corrective saccades* tend to occur after return sweeps, which are movements that correctly re-identify text (Rayner, 1998).

One point of significance to note that eye-tracking has discovered is that text must be recognized quickly during eye movement, or else the eyes continue to the next piece of text without fully processing the word left behind (Dussias, 2010; Rayner & Clifton, 2009). This has great implications for contextual understanding in lower-proficiency L2 readers of English, as content words are more likely to be fixated on than function words (Rayner, 1998) and low-frequency words tend to cause more difficulty and longer fixations than high-frequency words (Rayner & Clifton, 2009; Tily et al., 2010). Without the knowledge and meaning of content words, important pieces of the text will be “lost in translation”; that is, significant information will be lost because the lack of lexical proficiency in reading prohibits immediate word recognition. Even minor delays in recognizing word meaning will have repercussions because the eyes will have already moved on to other word-forms in the text (Rayner & Clifton, 2009), and the end result is poor comprehension (Chang, 2010).

Another discovery in eye-tracking has been the identification of perceptual span. This grants access to field recognition several letters ahead of the word being fixated, which allows readers to preemptively prepare for oncoming information by freeing attention resources (Nassaji, 2003; Rayner, 1998). When reading in left-to-right orthographic systems such as English or Dutch, readers’ perceptual span stretches from three to four letters at the point of saccadic fixation to fourteen to fifteen letters to the right of the fixation (Dussias, 2010; Rayner, 1998; Rayner & Clifton, 2009). This is found similarly in right-to-left languages such as Hebrew. Chinese, on the other hand, has a perceptual span of approximately one character to the left and three to four to the right, a stark contrast to either of the above writing systems. Rayner (1998) argues that because Chinese has more information encoded into each character, the perceptual span is going to be more constricted. Even without directly fixating upon future content, readers still process words in such a way as to create lexical priming for future word recognition.

The benefits that have resulted from studying eye-tracking are note worthy. However, all of the knowledge demonstrated by eye-tracking lacks the internal process—the aforementioned information is found simply by observing the outward responses of the body to stimulus. Although every step taken with eye-tracking is serial (Rayner & Clifton, 2009), the question remains: Is L2 reading comprehension itself entirely serial? It would be counterintuitive to assume that reading is a series of linear steps and processes when comprehension itself requires many different strategies working simultaneously in order for a reader to process information in a text (Miller & Perkins, 1990).

Cultural Familiarity

Another significant factor to examine is how cultural factors shape reading comprehension. Numerous studies have shown a positive correlation between cultural familiarity and reading comprehension (Brantmeier, 2003; Erten & Razi, 2009; Keshavarz, Atai, & Ahmadi, 2007). This literature has shown that the more culturally familiar a text is to a reader, the more likely an L2 reader is going to be able to comprehend it. It is useful to be aware of various cultural materials for implementing innovative approaches to reading comprehension instruction. Furthermore, it has been suggested that perhaps L2 comprehension development varies from culture to culture because of a varying combination of information organization preferences between groups (Grabe, 1991).

With ever-increasing numbers of multi-cultural learners in EAL classrooms, teachers are faced with a growing problem: How can all of these learners be accommodated equally? Brantmeier (2003) discusses in her literature that L2 learners tend to make different judgments on the level of a text's reading difficulty depending on how familiar the cultural content is to the reader. Certain reading strategies may be common among certain cultures, but it is important to remember that individuals are more than the stereotypes and generalizations of their cultures and may not necessarily use the same approaches as the dominant culture in order to improve reading proficiency in the L2. This is important to consider when choosing reading texts, also, as the interpretation of a text will vary from culture to culture (Brantmeier, 2003; Parry, 1996).

When reading texts with unfamiliar cultural patterns, L2 readers will often revert to their own cultural norms in an attempt to interpret the text, which may result in unsuccessful comprehension (Erten & Razi, 2009). Erten and Razi conducted a study in order to determine whether or not the "nativization"—using culture-specific information in order to make text meaningful and thus comprehensible—of a text provided enough cultural familiarity to better comprehend a text. The result of their research indicates that cultural nativization plays a role in increased text understanding, decreases the cognitive load needed for comprehension, and increases the motivation to learn.

The Effect of L1 on L2 Reading

It is evident through different studies that L1 does play a role in L2 reading comprehension and that the use of L1 "is beneficial at all levels of ESL" (Seng & Hashim, 2006, p. 30). Furthermore, L1 mental translation has been shown to be "an important part of the L2 reading comprehension process" (Seng & Hashim, 2006, p. 30). While L2 reading acquisition is taught at an earlier stage than in the L1, the L1 contributes significant background information, cultural worldviews, and linguistic knowledge (Fecteau, 1999). L1 plays a role in both lower-level comprehension and advanced comprehension, but in very different ways. For instance, as a lower-level L2 reader of English, one might use his or her L1 to convey his or her understanding of the text that was just read on account of having insufficient knowledge of the language to demonstrate understanding in the L2 (Fecteau, 1999). As an upper-level L2 reader

of English, however, one might employ his or her L1 reading strategies in L2 tasks. To be able to do this may require a higher measure of reading proficiency. Many studies have indicated that both L1 reading skills and L2 linguistic knowledge contribute to L2 reading comprehension (Fecteau, 1999). For example, many L2 reading errors are the result of lexical knowledge gaps which can be supplemented by L1 lexical inference, depending on the reader's proficiency level (Fecteau, 1999).

Another factor to consider when examining the effects of L1 on L2 reading comprehension is the contribution of language transfer and interference. Brown (2007) defines transfer as "the carryover of previous performance or knowledge to subsequent learning" (p. 102). Interference, on the other hand, is defined as "a previous item that is incorrectly transferred or incorrectly associated with an item to be learned" (Brown, 2007, p.102). Transfer can be facilitative, especially in cases where the L1 and the L2 structures are similar and share cognates (i.e., similar word-forms with identical meanings); however, interference can play a negative role to varying degrees during the reading process. Examples of interference include incorrect associations of false cognates (i.e., similar looking word-forms with different meanings) and the use of L1 syntax in L2 production. Overcoming such interference may require extensive lexical training with regard to word recognition. For example, through extensive reading practice (i.e., reading as much as possible), one way of improving comprehension and increasing reading fluidity can be achieved (Nassaji, 2003).

The Emergence of Electronic Reading

Electronic reading (e-reading) has exploded as a medium for reading materials over the last several years and has even gone so far as to challenge traditional reading methods (e.g., books). There are definite advantages to e-reading, such as having accessible material to a large number of people at any given time, being able to access thousands of books and articles very quickly by pressing a few buttons, and the ability to store many articles into a storage space of minimal size. Furthermore, the capability of networking to thousands of information sources with millions of books, articles, and periodicals provides limitless possibilities for sharing information that was not previously available.

Kang, Wang, and Lin's (2008) study has provided evidence that learners involved in the e-reading process can be just as accurate in their comprehension abilities as they are while using traditional reading methods, if not *more* accurate. Kang et al. found that learners would often require more time than learners using traditional media in order to break down and analyze digital text; however, their accuracy in locating specific information was superior to learners using paper versions containing the same information. In this case, they argue that online reading comprehension is superior to traditional reading comprehension. On the other hand, e-reading has certain physiological disadvantages such as increased susceptibility to eye fatigue (Kang et al., 2008). This can decrease word-recognition accuracy and, subsequently,

comprehension. As well, e-reading is reliant on a power source to function, whereas traditional reading media are not.

Huang, Chern, and Lin (2009) claim that L2 reading has been redefined by the onset of this reading medium and that L2 learners require new comprehension strategies in order to cope. They argue that learners need special skills when reading text online, as the Internet provides new features to readers in processing that are not used in traditional reading media, such as pop-ups and news sidebars (Huang et al., 2009). However, these features are not necessarily a hindrance: Chun's study (2001) found that incorporating features into online reading such as internal glosses for new or unknown vocabulary led to an increased understanding of the text. She suggests that if vocabulary meanings are immediately accessible, the reading process may improve in speed and in accuracy (Chun, 2001). However, it is uncertain if these improvements exist across an entire group of learners or only from individual to individual, which results in weakening the study's validity.

E-reading has not existed long enough for extensive research to be available regarding its long-term uses and its efficacy in comparison to traditional reading methods in terms of comprehension processing, strategy use, and recall. In many ways, e-reading is still in its infancy; therefore, L2 readers' strategy use will need to be critically examined if L2 reading researchers want to gain a fuller understanding of the implications of e-reading in L2 reading comprehension. Such examinations would include whether or not new reading strategies are necessary, what these strategies would be, and how to apply them to language teaching in order for L2 learners to benefit from them.

Issues with the Current Research

Although much has been learned in the realm of L2 reading research, there are still knowledge gaps that need to be addressed. The first to consider is how comprehension can negatively affect fluency. Nassaji (2003) found that "linguistic deficiency constrains the reading comprehension process, and limited language proficiency leads to inefficient processing of text" (p. 263). This means that depending on the proficiency level of the learner, more time and cognitive attention will be spent on decoding the message rather than lessening the cognitive workload, which has been shown to be a preliminary stage of fluency development and effective comprehension. The instructor may need to allocate more time to reading tasks for lower-level readers, not only for comprehension, but also for creating more opportunities to build automaticity in word recognition. This is not something that can be neglected when trying to help a L2 learner become proficient in reading the target language.

The second issue is the assumption that learners with seemingly proficient EAL abilities who have completed advanced-level language courses will have similar reading proficiency skills in the L2 (Guo & Roehrig, 2011). This assumption has not been supported empirically. As a result, L2 reading instructors face the challenge of having learners with various ranges of

reading levels in their class as opposed to the advanced proficiency that the instructor was expecting (Fecteau, 1999). The gap in learners' reading abilities must first be addressed before advanced instruction can begin. The question is where a language instructor starts. This expectation of parallel proficiencies is problematic, as oral and reading skills greatly differ in the processes that are active and working (Yang, S., 2010), so to assume that an EAL learner with strong L1 reading proficiency will have equally strong reading proficiency in his or her L2 is questionable. Oral and reading processes may overlap in some instances, but they are by no means identical. As such, to what extent can oral proficiency truly reflect a learner's reading proficiency?

The third concern to note is that most research in EAL and reading comprehension is based on the findings of L1 reading which, while valuable, cannot be equivocated to the possibilities of L2 learning. The processes of L1 reading and L2 reading require further examination. These L2 reading strategies are not necessarily the same for EAL as they are for L1 reading acquisition. As a result of the need to bridge this gap, our knowledge of EAL reading comprehension can be greatly enriched by incorporating e-reading factors into L2 reading research and by conducting empirical studies to determine if e-reading truly does utilize comprehension strategies that traditional reading media do not.

The final point to note is the ramifications of online reading on L2 comprehension. More research is needed in order to understand the implications of e-reading on EAL readers and whether or not their comprehension abilities are consistent with traditional reading comprehension abilities when their attention is devoted to reading tasks on a computer screen. Limited studies have examined the correlations among efficiency, accuracy, strategy use, and comprehension with regard to EAL and e-reading methods. Furthermore, few studies exist that empirically substantiate the use of e-reading strategies and whether these strategies are necessarily the same as the strategies in use during conventional L2 reading (Huang et al., 2009). Factors related to efficiency, accuracy, and strategy use are going to become increasingly critical to uncover as the popularity of e-reading grows.

Teaching Methods

The importance of teaching methods that cater to every L2 reader in a way that both draws on a learner's prior knowledge and continually challenges the learner in a meaningful and relevant way cannot be stressed enough. One can imagine how EAL reading instruction is shaped, considering that "most of our current views of [second language] reading are shaped by research on first language learners" (Grabe, 1991, p. 378). While there are many approaches to teaching reading comprehension, most if not all of these approaches have drawbacks which only indicate that there is no one true path for teaching comprehension successfully to all L2 readers (Brantmeier, 2003). This is elaborated on below as the pros and the cons of more

commonly acknowledged teaching methods used for reading comprehension instruction are discussed:

(1) *Comprehension Monitoring*: “the ability to know what has been done right or wrong, and to integrate new information with prior existing knowledge” (Yang, Y., 2002, p. 19).

While this approach is excellent for detecting errors in reading through activities such as note-taking and retelling, it is more useful for more proficient readers than it is for novice readers, as higher-level learners will be able to detect inconsistencies in their reading, whereas lower-level learners may not. The effectiveness of readers’ comprehension monitoring “[lies] in their reading proficiency, rather than their language background” (Yang, Y., 2002, p. 22). However, comprehension monitoring is not without its limitations. This approach may not necessarily be cross-culturally feasible to incorporate across contexts. For example, native-speaking English instructors teaching abroad will find that comprehension monitoring is rarely implemented in EFL (English-as-a-foreign language) contexts (Yang, Y., 2002). As a result, in EAL contexts, using comprehension monitoring with learners who are not familiar with using this approach may not benefit in the reading activity as effectively, as they may be unsure of what is expected of them. Furthermore, comprehension monitoring may be problematic for less proficient L2 readers, as they are less likely to notice problems in their comprehension despite having the strategic tools to face their challenges (Yang, Y., 2002).

(2) *Bottom-Up Approach*: individual units or pieces of language that contribute to the overall interpretation of text (Celce-Murcia, 2001).

This approach systematically breaks words down into individual units in order to comprehend the word meaning before reintegrating it into the learner’s lexicon (the part of the brain where words and their meanings are stored). While this approach is useful for determining the word’s meaning through decoding sounds and reintegrating the combined meanings of each word, it does not automatically contribute to the improvement of contextual awareness in a given text, which makes any sort of non-literal text interpretation all the more challenging to an EAL learner (Nassaji, 2003). This can result in cognitive overload, which, more or less, will cause comprehension breakdown during the reading process.

(3) *Top-Down Approach*: understanding the text’s overall theme or purpose in order to grasp isolated words and sounds (Celce-Murcia, 2001).

The top-down approach is emphasized more in classrooms today but is not necessarily the most effective approach for each and every reading situation. The use of bottom-up and top-down processing is context-dependent. In some cases, individual words need attention (bottom-up) whereas in other cases, the entire context requires focus (top-down). To add to this, there will likely be individual learner variables such as culture for one approach preference or the other, with the less-used method working along the periphery of the preferred reading strategies in use in order to aid with filling in knowledge gaps where the primary approach fails to glean understanding.

Conclusion

To conclude, there have been numerous discoveries in the understanding of L2 reading comprehension through a variety of research. There are now a number of approaches to teaching L2 reading as a result, which aid in the development of lexical automaticity in comprehension and the progression of reading fluency. However, there are some challenges that need to be addressed. With the increasing use of e-reading, the implications for L2 reading respective to e-reading research remain scant. More efforts need to be made in the research community to bridge the gap between research and pedagogy by integrating empirically substantiated research into classroom teaching methods and by understanding the reading needs of the students. EAL instructors need to explicitly teach their students skills in independent strategy use while actively engaging in reading tasks. By doing this, students will be better able to take control of their own learning, and language teachers will be able to make well-informed pedagogical decisions in their classrooms.¹

¹ I am aware of the importance of critical reading skills in L2; however, this topic is beyond the scope of this paper.

References

- Brantmeier, C. (2003). Does gender make a difference? Passage content and comprehension in second language reading. *Reading in a Foreign Language*, 15(1), 1-27.
- Brown, H. D. (2007). *Principles of language learning and teaching*. New York: Pearson Education.
- Chang, A. C. S. (2010). The effect of a timed reading activity on EFL learners: Speed, comprehension, and perceptions. *Reading in a Foreign Language*, 22(2), 284-303.
- Chun, D. M. (2001). L2 reading on the web: Strategies for accessing information in hypermedia. *Computer Assisted Language Learning*, 14(5), 367-403.
- Day, R. R., & Park, J. S. (2005). Developing reading comprehension questions. *Reading in a Foreign Language*, 17(1), 60-73.
- Dussias, P. E. (2010). Uses of eye-tracking data in second language sentence processing research. *Annual Review of Applied Linguistics*, 30, 149-166.
- Erten, H. E., & Razi, S. (2009). The effects of cultural familiarity on reading comprehension. *Reading in a Foreign Language*, 21(1), 60-77.
- Fecteau, M. L. (1999). First- and second-language reading comprehension of literary texts. *The Modern Language Journal* 83(4). 475-493.
- Grabe, W. (1991). Current developments in second language research. *TESOL Quarterly*, 25(3), 375- 406.
- Grabe, W. (2010). Fluency in reading – Thirty-five years later. *Reading in a Foreign Language*, 22(1), 71-83.
- Grabe, W., & Stoller, F. L. (2001). Reading for academic purposes: Guidelines for the ESL/EFL teacher. In Celce-Murcia, M. (Ed.), *Teaching English as a second or foreign language* (pp. 187-203). Scarborough, Canada: Heinle & Heinle.
- Guo, Y., & Roehrig, A. D. (2011). Roles of general versus second language (L2) knowledge in L2 reading comprehension. *Reading in a Foreign Language*, 3(1), 42-64.
- Huang, H., Chern, C., & Lin, C. (2009). EFL learners' use of online reading strategies and comprehension of texts: An exploratory study. *Computers and Education*, 52, 13-26.
- Kang, Y. Y., Wang, M.-J. J., & Lin, R. (2009). Usability evaluation of e-books. *Displays*, 30, 49-52.
- Keshavarz, M. H., Atai, M. R., & Ahmadi, H. (2007). Content schemata, linguistic simplification, and EFL readers' comprehension and recall. *Reading in a Foreign Language*, 19(1), 19-33.
- Laufer, B., & Ravenhorst-Kalovski, G. C. (2010). Lexical threshold revisited: Lexical text coverage, learners' vocabulary size and reading comprehension. *Reading in a Foreign Language*, 22(1), 15-30.
- Lin, L. (2010). The impact of the retelling technique on Chinese students' English reading comprehension. *Asian EFL Journal*, 12(2), 163-191.

- Miller, L. D., & Perkins, K. (1990). ESL reading comprehension instruction. *RELC Journal*, 79-94.
- Nassaji, H. (2003). Higher-level and lower-level text processing skills in advanced ESL reading comprehension. *The Modern Language Journal*, 87(2), 261-276.
- Oxford English Dictionary (2nd ed.). (2010). Oxford, UK: Oxford UP.
- Parry, K. (1996). Culture, literacy, and L2 reading. *TESOL Quarterly*, 30(4), 665-692.
- Rayner, K. (1998). Eye movements in reading and information processing: 20 years of research. *Psychological Bulletin*, 124(3), 372-422.
- Rayner, K., & Clifton Jr., C. (2009). Language processing in reading and speech perception is fast and incremental: Implications for event-related potential research. *Biological Psychology*, 80, 4-9.
- Seng, G. H., & Hashim, F. (2006). Use of L1 in L2 reading comprehension among tertiary ESL learners. *Reading in a Foreign Language*, 18(1), 29-54.
- Tily, H., Fedorenko, E., & Gibson, E. (2010). The time-course of lexical and structural processes in sentence comprehension. *The Quarterly Journal of Experimental Psychology*, 63(5), 910-927.
- Yang, S. (2010). The influence of schema and cultural difference on L1 and L2 reading. *English Language Teaching*, 3(4), 175-180.
- Yang, Y. (2002). Reassessing readers' comprehension monitoring. *Reading in a Foreign Language*, 14(1), 18-42.

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