



Online Reading Strategies in EFL: A Review

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Abstract

Online reading strategies have been a crucial issue in EFL learning because reading strategies are essential for students reading comprehension and the increasing penetration of information and communication technology into foreign language learning has transformed reading and current studies have shown that online text reading requires new strategies. This article presented the findings of a systematic review of 20 research on online reading strategies in EFL learning published in 2011-2021. The findings of the studies focusing on the strategy used for EFL online reading show that the most frequently used reading strategies were problem-solving strategies, which is followed by global reading strategies, and finally support strategies as the least frequently used strategies. The findings concerning the correlation of online reading strategies and other variables of reading are inconclusive because each of the studies correlates online reading with different reading variables. Results of studies focusing on the effectiveness of online reading strategies are also inconclusive because each of them investigated the effect of online reading strategies on different variables. Thus, more and more studies are needed to provide a clearer understanding of online reading strategies.

Keywords:

EFL, online reading strategies, reading comprehension, review

INTRODUCTION

Due to several reasons, reading, which is defined as a process for acquiring, storing, and retrieving information from texts, is the most vital skill for every English as a foreign language (EFL) learner. First, EFL learners' lack of input from daily interaction could be

overcome best through reading. Second, it boosts the learners' mastery of other areas of language learning (Anderson, 2003). Third, it contributes considerably to students' personal and intellectual development, further studies, job success, and professional development (Decant, 1991; Mullis et.al., 2009) for it is the basis of lifelong learning (Erdem, 2015). Accordingly, empowering students to read is one of the priorities in EFL learning.

Since reading is essentially a process involving an interaction between the reader and the text to get the author's message, in every reading the reader tries to connect the text to his knowledge background, experiences, and the outside world by employing various reading strategies are defined as the mental operations and behaviors involved when readers approach a text effectively to derive meaning from what they read (Aebersold & Field, 1997; Pani, 2004). This indicates that reading strategies are supposed to be essential for students reading comprehension, as they equip them with the skills for handling their reading effectively. Effective use of reading strategies is essentially crucial for enhancing reading comprehension (Yen et al, 2017; Habok & Magyar, 2019; Fathi & Afzall, 2020) and successful readers employ reading strategies more frequently than less successful readers do. (Wang, 2016; Kung, 2019; Aydinbek, 2021).

The vital role of reading strategies in foreign language learning has caused current studies in EFL reading to focus on reading strategies employed by students to improve their reading comprehension and overcome comprehension failure. The results of such studies are expected to provide a better understanding of English as a foreign language (EFL) readers' reading strategies and strategic readers' characteristics which can provide educators with more opportunities to help students improve their reading comprehension despite our inability to know how readers use reading strategies for the activity is internal, they can be taught (Tooman, 2022). This is confirmed by various past research results indicating that reading strategies are applicable, vital, and valuable for language learners. Celce-Murcia (2001) posited that strategic readers understand a reading activity goal, possess a variety of well-practiced reading strategies at their disposal, use them in efficient combinations, suitably monitor comprehension, recognize miscomprehension, and effectively put comprehension problems right. Oczkus (2003) found that reading strategies increase students' interests and improve their understanding of the text. Aydinbek (2021) reported that after having instruction in using reading strategies, students achieved higher reading scores and they believed that reading strategies use improved their reading achievement. So, students should know what suitable strategies to use to help them comprehend the texts.

With the accelerating advancement of information and communication technology and its penetration into all ways of life, the internet has played a significant role in the educational field and particularly in foreign language learning. ICT has made information accessible without limit in various forms (texts, audio, video) to all students, wherever they live. Accordingly, the ways today's students read, build, process, and communicate knowledge and information have been transformed. Additionally, the prevalent use of laptops, mobile phones, and internet technology has also transmuted reading encompassing new strategies considered crucial for reading digital texts, including identifying, interpreting, synthesizing, and reviewing content (Ahmadian & Pasand,

2017). Therefore, more and more present research on reading strategy has begun to focus on the strategies EFL learners employ in comprehending online text. Coiro (2003) contended that due to the influence of technology, current literature has addressed the need for changes in the way reading comprehension is viewed. Digital texts have, therefore, provided new opportunities, as well as new challenges, which can significantly impact EFL learners' ability to comprehend what they read.

Most past reading research in both print and digital settings had long focused on first language contexts (e.g., Anderson, 2003; Grabe & Stoller, 2011) as it was regarded that many first language reading skills and strategies can be transferred to second or foreign language reading (Day & Bamford, 1998; Hudson, 2007; Nichols, 2009; Grabe & Stoller, 2011). However, recent reviews of reading comprehension research have led to the insight that online reading comprehension appears to considerably differ from offline reading comprehension because digital texts have richer and more complex components or environments than traditional offline texts. Singer and Alexander (2017) posited that since reading generally involves a text, task, and reader; an online reading environment influences all of these three. Murray and McPherson (2004) reported that print reading skills do not automatically transfer to online reading skills. According to Afflerbach and Cho (2010), online reading necessitates offline reading strategies but they are employed in a more complex way, while other research (Coiro, 2011; Leu et al., 2013) indicated that digital reading comprehension necessitates different, sometimes additional, skills and strategies.

This review aims at finding out what is known and not yet known about online reading strategies in EFL by bringing together the available research in a systematic manner. After getting a clearer understanding of what the available body of research has revealed, recommendations for future research will be suggested.

Research questions

Despite the availability of literature on specific aspects of EFL online reading, the research seems to be dominated by the comparison with first language online reading research about online environments, tasks, readers, and the relations between them. In the preceding decade small-scale, explorative studies about EFL online reading began to increase, but a systematic overview of the available literature is still meager so far. To gain a clearer understanding of what is known about digital reading in a foreign language, including "how it is known, how it varies across studies, and what is not known from previous research" (Gough, Oliver, & Thomas, 2017, p. 3), the present review attempts to answer the following questions:

1. What does the research published in the last decade reveal about the strategy used for EFL reading across varying contexts for reading and learning?
2. What does the reviewed research reveal about the effectiveness of online reading strategies?
3. To what factors are online reading strategies correlated with, and what are the results?
4. What is reported about EFL learners' views on task-oriented online reading and learning activities?

METHOD

This study employed the systematic literature method defined as a method for identifying, evaluating, and interpreting all findings on a research topic for finding the answer to previously determined research questions (Kitchenham & Charters, 2007). It was carried out using the procedure proposed by Littell et al. (2008) that consists of five phases: the formulation of the problem, sampling, data collection, data analysis, and interpretation and the presentation of the result.

Literature Search

The literature search was conducted on 10-14 March 2022 by scanning the search term “online reading strategies in EFL” in Google Scholar. Google Scholar was chosen as the database to locate the research to review due to two reasons. One, Google Scholar could provide massive search results since it includes about 389 million documents (Gusenbauer, 2019). Two, research articles and other scholarly literature from academic publishers and institutional repositories could be easily searched and retrieved from Google Scholar. This step provided 62 articles. Then these articles were sorted using six inclusion criteria, i.e. they were written in the standard structure of research articles and published in academic journals, academic repositories, or proceedings; they report research concentrating on online reading strategies in EFL; they were peer-reviewed, they were written in English, they involved EFL learners as participants, and they were published from 2011 to 2021. Screening the available articles using these criteria, 32 potential research were obtained. Finally, they were screened again to drop the unqualified manuscripts using our exclusion criteria, i.e. the studies were conducted in ESL contexts, they were about early literacies (i.e. learning to read), they were about leisure reading, and they were unpublished thesis or dissertations. The second screening provided 20 articles to be reviewed.

Data Analysis

The data obtained from the 20 articles were analyzed employing the constant comparative method that was applied in four steps: (1) scrutinizing the first selected research; (2) noting its content to create a tentative theme; (3) evaluating the second article; and (4) comparing it to the theme of the first article. If these articles’ theme is similar, the third article was examined. If the theme of the first and second articles was discovered different, another theme was generated. The review then proceeded by analyzing the next article and comparing it to the previous ones. Thus, every article was examined and compared to another

LITERATURE REVIEW

Reading Strategies

Reading strategies are the mental operations and behaviors involved when readers approach a text effectively to derive meaning from what they read (Aebbersold & Field, 1997; Pani, 2004). They are generally classified into three categories: global reading strategies, problem-solving strategies, and support strategies. Global reading strategies refer to the intentional techniques employed by learners to monitor their reading, e.g.

previewing the text for its organization (Sheorey & Mokhtari, 2001). Problem-solving strategies pertain to localized techniques used by readers to encounter problems in understanding textual information, e.g. guessing unfamiliar words' meaning. Support strategies are related to the use of some supportive mechanisms, such as consulting an online dictionary, taking notes, and paraphrasing text information.

Another popular reading strategies classification is adapted from SILL (Strategy Inventors for Language learning strategies grouped into two major divisions (Oxford, 2003): Direct learning strategies and indirect learning strategies. The direct learning strategies cover memory strategy, cognitive strategy, and compensation strategy; while, the latter include metacognitive strategy, affective strategy, and social strategy. Memory strategies refer to the methods for effectively remembering, taking, and sharing information necessary for future language use. It is occasionally called mnemonic. Cognitive strategies are the strategies that facilitate the learners to interact with the material by manipulating it mentally such as grouping the items or taking notes on important information to memorize. Compensation strategies support language learners to solve their knowledge limitation problems both to understand and produce language. Metacognitive strategies play a role in the general management of learning, including concentrating on centering, arranging, planning, and evaluating learning. Affective strategies are needed to control language learners' learning in the sense of emotions, attitudes, motivations, and values. Social Strategies. Social strategies are related to methods for asking a confusing point to get clarification, asking the question, and asking for some help.

Paper-Based Reading Strategies

A paper-based (or printed text) is a tangible object having a beginning and an end. It is also hierarchical, intended for private reading, and provides a very linear and static reading experience to the reader. Different from web text, in which the navigation of the text can be fluid and reader-driven, printed text is "shaped by the author, and the readers have little choice but to follow the author's intended plot or expository structure" (Coiro, 2003, p.4).

Barnett (1988) described paper-based reading strategies as the comprehension processes utilized to make sense of a text. These strategies include scanning, skimming, recognizing cognates and word families, guessing, predicting, activating general knowledge, reading for meaning, inferencing, and differentiating main ideas from supporting ideas. To be a proficient reader, an individual should be skillful to apply these strategies.

Many previous studies on EFL paper-based reading strategies mainly focus on the different use of reading strategies between EFL learners and native speakers while reading texts and teaching reading strategies effect. Some of the studies have suggested that assigning learners to practice reading strategies can be effective to enhance their reading comprehension. Bereiter and Bird (1985) reported that the group receiving the reading strategies explicit instruction outperformed the group receiving explicit instruction. Similarly, Sporer, Brunstein, and Kieschke (2009) found the students

receiving training reading strategies intervention achieved higher scores on reading comprehension tasks and strategy use than the control group.

Other studies have focused on comparing reading strategy use between native speakers and EFL learners or explored EFL learners' differences towards reading strategy use. The findings indicated that EFL learners may use certain reading strategies more than native speakers. Mokhtari and Reichard (2004) reported that Moroccan students utilized certain types of strategies more often than their American counterparts did, but Sheorey and Mokhtari (2001) showed that both native speakers and EFL learners groups used a similar number of reading strategies. Regarding learners' differences in reading strategies, various studies showed the different use of strategies among learners from various levels of proficiency. Huang (1999) found that readers with high proficiency tend to use global strategies while readers with low proficiency apply local strategies.

Online Reading Strategies

Online reading strategies refer to the learners' conscious, intentional actions and behavior when reading web-based materials (Behalova, 2010). Recent research has indicated that online reading comprehension appears to considerably differ from offline reading comprehension. Since digital texts have richer and more complex components or environments than traditional offline texts, web-based text requires new skills such as manipulating electronic databases, using multiple search engines, and navigating hierarchical subject guides. Murray and McPherson (2004) reported that paper-based reading skills do not automatically transfer to online reading skills, while Nichols (2009) claimed that proficient readers are capable to transfer their reading strategies to the online reading environment. Afflerbach and Cho (2010) verified that online reading necessitates offline reading strategies but they are employed in a more complex way. Schmar-Dobler (2003) listed and compared seven comprehension strategies consistently used in both paper-based reading and online reading: activating prior knowledge, monitoring comprehension, repairing comprehension, determining important ideas, synthesizing, drawing inferences, and asking questions. For online reading, she offered 'navigate' as an additional strategy. Besides that, Callister and Burbules (1996) suggested 'surf' as another additional unique strategy for web-based reading. It lets readers skim the text to find keywords, phrases, or links without perceptively reading line by line.

Other studies (e.g. Li, et al, 2006) support the idea that online reading needs a combination of various strategies used in paper-based reading plus exclusive skills in online reading. Because, different from linear and static print texts, digital texts are multi-modal (integrate text, static images, animations, embedded videos, and sound) and possess hyperlinks that create nonsequential page structures. Reading such texts requires the ability to employ digital reading strategies, particularly searching for and locating texts, and constructing and examining meaning as well (Cho, 2014; Coiro, 2011). Dail (2005) reported that to read web-based text, students applied two strategies: (1) digital reading strategy, including navigation strategy and scrolling the pages, and (2) conventional strategies, including skimming, summing the information, note-taking by hand, and referring to previous knowledge.

RESULT AND DISCUSSION

The Strategy Used for EFL Online Reading Across Varying Contexts for Reading and Learning.

More than half (65%) of the reviewed studies investigated the use of online reading strategies. All of them include a focus on self-reported strategy use through Reading Strategy Use Questionnaire (Naseri & Zaferanieh, 2012), Survey of Online Reading Strategies (SORS) (Meniado, 2016; Pei, 2014; Al-Seghayer, 2014; Yaghi, 2021, Behdani, Sharif & Hemmati, 2016; Pasaribu, 2017; Mukhli & Amir, 2017), Online Survey of Reading Strategies (OSORS) (Omar, 2014; Chen, 2015, Ahmadian & Pasand, 2017; Rianto, 2021). A study (Taki & Soleimani, 2012) even used SORS and OSORS.

The Reading Strategy Use Questionnaire is based on SILL (Strategy Inventors for Language learning strategies grouped into two major divisions (Oxford, 2003). The findings of studies using this questionnaire show that the most frequently used reading strategies were cognitive strategy, testing strategy, meta-cognitive strategy, and finally compensatory strategy (Naseri & Zaferanieh, 2012). The two other questionnaires, SORS and OSORS, are based on the conception of classifying reading strategies into global reading strategies, problem-solving strategies, and support strategies. The findings of the reviewed studies, in general, show that the most frequently used reading strategies were problem-solving strategies, which is followed by global reading strategies, and finally support strategies (Meniado, 2016; Omar, 2014; Yaghi, 2021, Behdani, Sharif & Hemmati, 2016; Pasaribu, 2017; Ahmadian & Pasand, 2017; Mukhli & Amir, 2017; Rianto, 2021). However, one of the studies (Al-Seghayer, 2014) found that the most frequently used reading strategies supported, followed by problem-solving, with global strategies as the least used and another (Chen, 2015) found that EFL online readers tend to use more global strategies, such as using contextual clues and observing tables, figures, and pictures in the on-line text to increase understanding. Furthermore, Genc (2012) found that some of the metacognitive reading strategies observed in hypertext reading are similar to those used in paper-based reading such as “using reference materials” and “translating from English to Turkish”. It was also found that few new emerging strategies that were not observed in paper-based reading emerged while reading hypertext documents., including reading slowly and carefully, having a purpose in the mind, using tables, figures, and pictures, using background knowledge, monitoring not understanding, and goal setting for skimming"

Some studies correlated online reading strategies and reading comprehension strategy use and reading comprehension, findings of which were diverse. Meniado (2016) and Pei (2014) found there is no correlation between metacognitive reading strategies and reading comprehension, while Ahmadian & Pasand (2017) showed there was a significantly positive relationship between the learners' perceived use of metacognitive online reading strategies and their self-efficacy in reading comprehension females use more global online reading strategies, while males perceive themselves as more self-efficacious in reading online texts.

The Effectiveness of Online Reading Strategies

Six studies employed a quasi-experimental design to investigate the effect of online reading strategies on EFL students with low reading proficiency (Ismail & Tawalbeh, 2015), on EFL learners' reading comprehensions (Altay & Altay, 2017; Abanomey, 2013), on EFL learners' reading comprehension performance and metacognitive awareness (Pei, 2014), on reading comprehension and metacognitive reading strategy employment (Razi, 2014), and the findings were diverse. Pei (2014) found there is no significant effect of metacognitive strategy instruction on EFL learners' reading comprehension performance and metacognitive awareness. Razi (2014), and Ismail & Tawalbeh (2015) showed there is a significant effect of metacognitive strategy instruction on EFL learners' reading comprehension performance, and Abanomey (2013) showed that the Internet has a positive impact on the overall reading comprehension ability. Yet, Al-Seghayer (2014) found there was no significant effect of gender and reading proficiency level on online reading strategies used.

These diverse findings make the effect of online reading strategies on EFL learners' reading comprehension performance inconclusive. Therefore, more and more studies are needed to provide a clearer understanding.

Variables Correlated with Online Reading Strategies and the Results

Three studies employed a correlational design correlating online reading strategies with various variables. Lien (2011) correlated EFL learners' reading strategies use with reading anxiety and gender. She found that There was a negative correlation between reading anxiety and reading strategies EFL learners with low anxiety levels tended to use general reading strategies such as guessing, while EFL learners with high anxiety levels employed basic support mechanisms, such as translation, to help understand texts. Naseri and Zaferanieh (2012) focused on the correlation between EFL learners' reading self-efficacy beliefs, reading strategies use, and reading comprehension level. The results show that reading self-efficacy beliefs and reading comprehension and also between reading self-efficacy beliefs and reading strategies use are significantly and positively correlated, but there is no correlation between Reading Self-efficacy and Reading Strategies in terms of gender. Meniado (2016) investigated the relationship between and among metacognitive reading strategies, reading motivation, and reading comprehension performance. He found that metacognitive reading strategies and reading comprehension have no correlation, reading interest/motivation and reading comprehension have no correlation, and reading strategies and reading motivation are positively correlated.

The fact that these studies correlate online reading strategies with different variables is natural because reading strategies are merely one of the variables or components affecting reading comprehension performance. Numerous other factors, like knowledge of grammar, syntactic knowledge, vocabulary knowledge, background knowledge, reading attitudes or motivation, and metacognitive awareness affect reading comprehension (Koda, 2005). However, the findings of these studies become incomparable. Thus, more and more studies that correlate online reading strategies with similar variables are necessary to determine the findings' conclusiveness.

EFL Learners' Views on Task-Oriented Online Reading and Learning Activities.

One of the studies, Huang (2012), explored EFL students' views on EFL task-oriented online reading activities. Employing a mixed-methods research design, she collected quantitative data through a questionnaire and qualitative data through open-ended questions and interviews. The obtained quantitative data reveals that the students considered online reading activities to help broaden their world knowledge (93%) and increase their English ability (95%). The qualitative data also revealed that online reading activities helped to arouse interest, enhance active participation, facilitate peer cooperation, promote discussion related to topics, and increase extensive reading opportunities.

Conclusion

This article presented the findings of a systematic review of 20 research on online reading strategies in EFL learning. This topic area is very crucial to study because reading strategies are essential for students reading comprehension, as they equip them with the skills for handling their reading effectively and the accelerating advancement of information and communication technology and its penetration into foreign language learning has transformed reading and indicated that reading online texts requires new strategies. One of the major findings from the review concerns reading strategies most frequently used by the participants. The results show that the findings were diverse, but a majority of the research revealed that, in general, the most frequently used reading strategies were problem-solving strategies, which is followed by global reading strategies, and finally support strategies.

Since reading strategies are merely one of the variables or components affecting reading comprehension performance, the fact that the correlational studies among the reviewed research correlate online reading strategies with different variables becomes acceptable. However, this makes the results incomparable and inconclusive. Future studies are recommended to focus on this topic.

Additionally, the diverse findings of the studies focusing on the effect of online reading strategies on EFL learners' reading comprehension performance are inconclusive cause more and more studies are needed to provide a clearer understanding.

Since there is only one study that explored EFL students' views of online reading activities numerous future studies are needed to focus on this topic to provide a clearer understanding.

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