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Investigating the Metacognitive Online Reading Strategies employed by Iraqi EFL Undergraduate Students

Zahraa Mukhlif

Faculty of Social Sciences and Humanities, Universiti Kebangsaan
Malaysia, Bangi, Malaysia

Zaini Amir

Faculty of Social Sciences and Humanities, Universiti Kebangsaan
Malaysia, Bangi, Malaysia

Abstract

This study aims to investigate the use of metacognitive online reading strategies among Iraqi students. The research seeks to answer the following research questions: (i) What are the metacognitive online reading strategies of Iraqi fourth year undergraduate students when they read online academic text? (ii) What are the difficulties faced by Iraqi fourth year undergraduates when they read online academic text?. Using a quantitative approach, the study deployed questionnaires which were administered on 50 fourth year students of Al- Salam University College, Baghdad Iraq. The response of the metacognitive online reading strategies among the students was assessed differently. The students adopt online dictionaries, reading e-books and online journal articles are some of the ways to increase the students' reading ability and enhance online reading among English as foreign language (EFL) students from Iraq. The researcher analyzed students metacognitive reading strategies usage and their problems. Based on the quantitative analysis of the students' responses to the SORS questionnaire, the students showed that problem-solving reading strategies ($\mu=3.59$) is the most frequently used strategy followed by support reading strategies ($\mu=3.49$) and global reading strategies ($\mu=3.42$). All these identified themes provide and help the students to improve their reading skills. The researcher recommends that future research examine other reading strategies with online or even print text. Moreover, reading strategies should be taught to English as foreign language (EFL) students.

Key words: English reading difficulties, Iraqi EFL students, metacognitive strategies, online reading strategies

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Introduction

Modern learning environment revolve around the use of digital and online tools for education and English language acquisition. The proficiency and strategies for comprehend and critically analyze information on the Internet plays a crucial role in students' achievement. Existing study has examine the metacognitive online reading strategies undergraduate learners of English as a foreign language (EFL), who use different strategies in their reading (Mesgar et al., 2012). It is necessary to consider metacognitive online reading among Iraqi-Arab EFL students. In computer based- reading, it may be most useful from navigational aspect of hypertext which focuses on the "broader dispositions and foundational metacognitive skills that people bring to reading and learning in hypertext in order to recognize the features of reading in certain environment" (McEneaney, 2003, p. 6).

Many Arab learners face various problems with online reading, because of the lack of background knowledge on how to deal with the reading materials. Unfortunately, in education, reading is regarded as the most essential skill for acquiring knowledge and gathering information for academic achievement and research (Alfassi, 2004; Wei, 2005) Therefore, mastering online reading skills can enhance learners' reading ability, increase their reading process and assist them in comprehending many difficult online texts (Noor et al., 2011).

There are several strategies involved in the reading process. Competent students often use these strategies effectively while reading. One of these strategies is the metacognitive reading strategy which has been defined by Flavell as "one's knowledge concerning one's own cognitive processes and outcomes or anything related to them" (Flavell, 1976, p. 232) . In fact, various studies have revealed that reading is a very complex and demanding process which require students to actively use metacognitive processes (Mukhlif, 2012). Metacognitive strategies refers to methods used to help students understand the way they learn; in other words, it means processes designed for students to 'think' about their 'thinking. As a reading strategy, metacognitive reading strategy deals with ability of students to think about what they are reading According to Veenman (1993) metacognitive learning or reading could take another dimension and process in online or computerised learning environment.

Two aspects of this phenomenon were discussed by Kuhn (2000), Veenman (1993) and Flavell (1979). The first aspect is the students' self-awareness of a knowledge based on which information is stored that is connected to how, when, and where to use the various cognitive strategies. Secondly, the self-awareness and access to strategies that facilitate direct learning (e.g. monitoring difficulty level, awareness). In addition, the consciousness required in metacognitive reading has been found to be developmental and relies on a continuum (Jetton & Alexander, 2001). Proficient readers use one or more metacognitive strategies to comprehend the texts. During reading, metacognitive processing is expressed through strategies, which are "procedural, purposeful, effortful, wilful essential, and facilitative in nature"; and in addition to this, "the reader must purposefully or intentionally or wilfully invoke strategies" (Jetton & Alexander, 2001: 295).

Online reading has become a major source of information for students and teachers. Therefore, metacognitive level of online readers becomes a necessary factor in modern research. Hsieh and Dwyer (2009:1) attributes this online dimension to metacognition to the" increasing

globalization and the rise of the World Wide Web which has made online reading to become a major source of learning for second language (L2) readers". Similarly, information explosion and the shift to electronic information have enhanced the ability of learners to access more online learning materials rather than reading printed texts. Some researchers stated that the differences between print and online environments are so immense that they cannot be compared well, with the newer technologies requiring new conceptualizations of both literacy and literate practices (Leu et al., 2004; Liu, 2005). Although, many challenges could affect the students' reading, especially with online reading where the ability to choose a good strategy is crucial, metacognitive strategies can help EFL students to better understand what they are reading online (Taki, 2015).

Many attempts have been done to describe the importance of reading academic text in general and online reading strategies in particular. Brown (1987) believes that in order to monitor and regulate thoughts during reading, students are required to use online reading strategies. Therefore, it would be valuable to investigate the metacognitive online reading strategies by Iraqi EFL undergraduate learners.

Literature Review

This paper relies on existing studies on themes such as metacognitive learning, online reading and learning EFL. Reading has become a significant skill in EFL teaching. Anderson (2008) focuses on the art of reading which he explained as an active, fluent process which involves the reader and the reading material in building meaning. Álvarez (2012) examines the difficulties in typical reading task and the impact of computerization or online environment. He asserts that although some learners face difficulties when dealing with typical reading tasks, advances in information and communication technologies, and the constant development of interactive and multimedia dynamics on websites can help students overcome their problems.

In the last few years, reading online has become important for teaching and learning. It is also a significant skills for finding different types of materials (Karbalaie, 2010; Mesgar et al., 2012). In line with reading online, metacognitive awareness requires individual cognitive and motivational processes in the reading process (Fatema et al., 2009; Pammu et al., 2011; Songsingchai, 2010; Temur & Bahar, 2011). According to Álvarez (2012), there has been notable increase in development of information and communication technology in the last few years. In line with this, Mesgar et al (2012) assessed the cognitive need of effective readers. The study added that readers should be armed with a large amount of online metacognitive reading strategies in order to comprehend online reading materials.

Furthermore, the eagerness of students to read in an online environment is the focus of Konishi (2003) The study examined the reading strategies among Japanese students within the context of hypertext online material. Amer (2010) extends the study to reading strategies and engagement between students and teachers in an ICT enabled environment with a special focus on English as a Second Language (ESL). Study by Konishi (2003) reveals that Japanese students were eager to use online reading strategies in their reading. In addition to concerns about presenting content in meaningful ways, they mentioned issues relating to students interaction via the internet. The result of this study shows the effectiveness of each form on students, independent preferences, group preferences, and technological preferences.

Hsieh & Dwyer (2009), in their article, state the different online reading strategies and different styles that learners use to make their reading useful. Therefore, the study encourages the learners to use re-reading keyword strategy. Songsingchai (2010) investigates the reading strategies for online and print materials among third year English major at Srinakharinwirot University. The categorization of students into low and highly proficient readers was one of the findings of the study which was dissected from the study by Singhal (2001). Despite the categorization Songsingchai (2010) finds that there are some difficulties encountered by good and poor readers as well as both use different strategies in online and print texts. The participants are lacking in the use of suitable strategies especially poor readers. This result can be transposed to Arab students who are learning to read and understand English online.

In relation with metacognitive online strategies, Ilustre (2011) discovers that the problem solving strategies among students correlates positively with the text comprehension. Further findings indicate active beliefs, and not passive beliefs about reading, were positively correlated with text comprehension. Similar findings have been reiterated by Jafari & Shokrpour (2012) which focused on ESL learning among Iranian students based on expository texts. In addition, problem solving strategies contribute to gradual understanding text.

In the online mode of delivery English language, Cubukcu (2008) argues that access to learning materials via the internet is necessary. The study finds that readers learn actively and take responsibility for their own learning in this situation. Similarly, Dörnyei (2003) explores the motivation and attitude of students which can force them to develop their metacognitive online reading skills. This study supports the conclusion by Cubukcu (2008) on the effectiveness of systematic direct instruction of multiple metacognitive strategies intended to assist students in comprehending text.

Materials and methods

The current study adopted a Survey of Reading Strategies questionnaire (SORS) which was developed by Sheorey & Mokhtari (2001). It consists of two main components, which are; the demographic questions and while the second part incorporated SORS. The data collected were analysed statistically based on certain variable which will enhance insight into the Metacognitive strategies used by Iraqi students in online reading. The demographic questions were designed to collect general background information about the respondents, which includes; gender, age, the student's status, the regularity of accessing the online reading material and reading performance. The main SORS section focused on the metacognitive reading strategies with the purpose of collecting responses on statement such as "I have a purpose in mind when I read online". The researcher also provided a short explanation about the questionnaires, the purpose of the study and instructions on how to respond to the questionnaires.

Regarding the content of the questionnaire, it is categorised based on predefined acronyms such as Global Reading strategies (GLOB), Problem solving strategies (PROB), and Support strategies (SUP). Moreover, the questionnaire has included 33 items and five Likert scales such as (1) which means 'I never or almost never do this', (2) which means 'I do this only occasionally', (3) which means 'I sometimes do this', (4) which means 'I usually do this' and (5) which means that 'I always or almost always do this'. After the students go through each

statement, they are expected to circle one of the numbers (1, 2, 3, 4, or 5) based on their level of agreement with the statement (Jamieson, 2004).

The respondents in the current study were fifty EFL university students (37 females and 13 males; see figure 1). They were undergraduate students of English in their fourth year, at Al-Salam University College. The students were in the last two months of their final academic year of the study, to obtain bachelor degree. The participants were different in their abilities to understand and speak English language; ranging from proficient and to less proficient. Since they are Arabs and the mother tongue is Arabic, their English proficiency was at intermediate and high intermediate level. As it can be seen, that the majority of respondents are between the ages 19-29 years old, and this formed 74% of the study's population size, this was followed by 20% who are 30-39 years old, and lastly, 6% who are 40-50 years old (refer to figure 2).

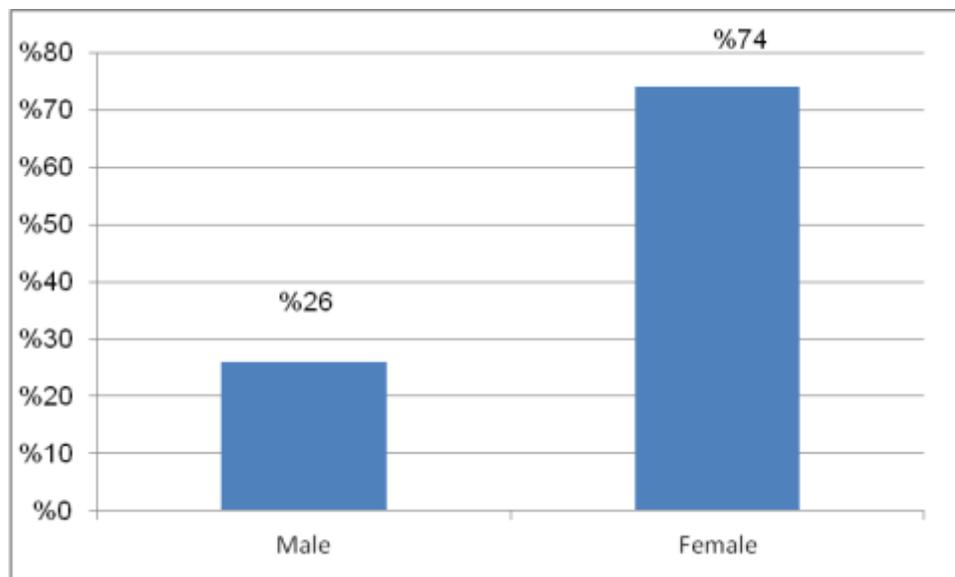


Figure 1 Distribution of respondents by gender

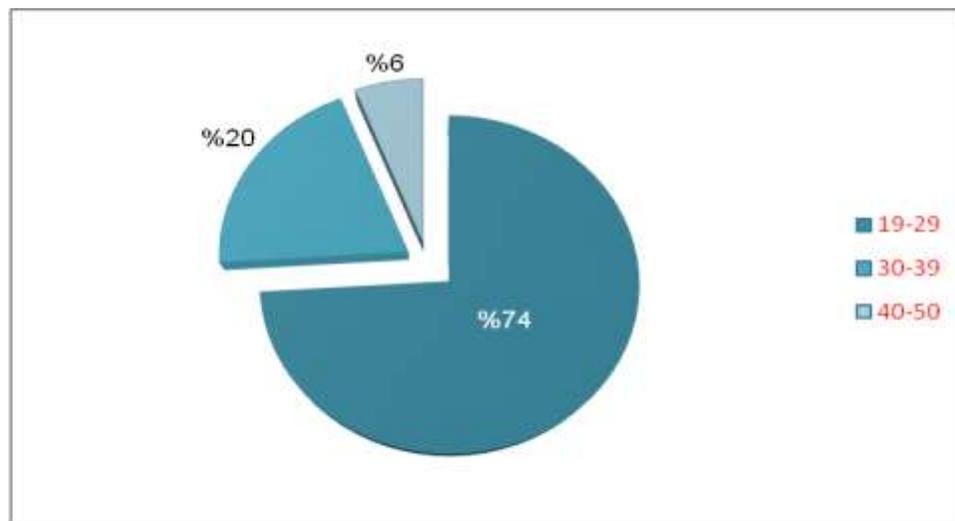


Figure 2 Distributions of Respondents by Age

Procedure for Data collection

The research used email as a procedure to be accessed and traced to collect the questionnaire. This type of procedure has been considered more appropriate in online research which requires that an electronic mailing system be used to send and receive data between the subjects and the researchers (Wright, 2005). The benefit of adapting such a developed procedure is to allow the researchers to evaluate the response quicker and at a lower cost (Dörnyei, 2007; Mehta & Sivadas, 1995). Some parts of the questionnaire were translated into Arabic, to help students for better understanding and be able to answer all items of the SORS questionnaire.

Data Analysis

Since the study uses questionnaire, the data will be analyzed in two ways i.e. descriptive analysis and inferential analysis (Allen & Seaman, 2007; Rosenthal & Rosnow, 1991). Firstly, descriptive statistics requires the discussion of frequency distribution and percentage of specific responses. Secondly, inferential statistics in this study is conducted using Statistical Package for Social Science (SPSS) 17.0 version. SPSS has been used in previous studies and the present study because it is suitable for quantitative data (Aron et al., 2013; Dörnyei, 1990; Ehrman & Oxford, 1995). The first part of the questionnaire was employed to identify the variables which are feasible using descriptive statistical analysis based on frequency distribution and the percentage. This will help to explain the demographic variables. The analysis of the second part of the questionnaire for strategies in reading online academic text is conducted through the use of Likert scale response to address the following research questions. Firstly, the use of the metacognitive online reading strategies among Iraqi fourth year undergraduate students when engage reading online academic texts. Secondly, the difficulties these students face when they read online academic texts.

Results and Data set

As mentioned earlier, the sample for this study ($n = 50$) consists of students who were studying in the field of English Language Studies (ELS) between 2011-2012 academic years. The students were asked to provide the researcher with their demographic information which included age and field of study. The respondents' background information is tabulated in Table 1. In this study, 37 respondents (74%) were between 19-29 years old, 10 (20%) were between 30-39 years old while 3 (6%) were more than 37 years old. It was further revealed on the table that the total number of the respondents is 50 (100%).

Table 1 *Summary of samples for the respondents' (Age and fields of study)*

Demographic Variables		Frequency	Percentage
Age	19-29 Years Old	37	74%
	30-39 Years Old	10	20%
	40-50 Years Old	3	6%
Field of Study	English Language Studies	50	100%

Survey of Reading Strategies (SORS)

This section discusses the responses of student with respect to the SORS which was adopted based on the study by Mokhtari and Reichard (2002) which used 3 strategy subscales or factors: Global Reading Strategies (GLOB), Problem-Solving Strategies (PROB), and Support Reading Strategies (SUP).

On the specific reading strategies adopted by Iraqi EFL Undergraduate Students when reading online materials in English, the statistical analysis obtained from the use of individual reading strategies used by the respondents while reading online materials, is reported in Table 2 in terms of Mean and Standard Deviation. According to Oxford and Burry-Stock (1995), learning strategy usage scores of an average 3.5-5.0 are considered high; 2.5-3.4 are designated moderate strategy use; and scores ranging from 1.0-2.4 are often assigned as low strategy utilization. Hence, it can be seen that the means of the individual items range from the high 4.26 (GLOB-6) to the low 1.86 (GLOB-2) mean (in bold). There are 8 individual items, that is, more than half of the 15 items in GLOB, in the high usage category (mean of 3.52 and above). Other 6 items fell in the moderate usage category (mean between 2.50- 3.49) was reported, and just one item (GLOB-2) fell in the low usage (mean of 2.49 and below) category.

Regarding the PROB reading strategy, there was 6 items marked as high and 6 item marked as moderate usage category. The maximum mean of 4.06 was found in (PROB-22), whereas the minimum mean of 3.16 was found in (PROB-24). The 8 items in the SUP reading strategy were divided equally between the high and the moderate usage category. The highest mean of 3.88 was found in (SUP-28), whilst the lowest mean was found in (SUP-27). Both the PROB and SUP reading strategies registered no item in the low usage category. This indicates that these two strategies are preferred by the Iraqi EFL Undergraduate Students when they read online materials in English.

Table 2 Reported of the three strategies

	Item	Question	Mean	SD
GLOB	1	I have a purpose in mind when I read online.	3.25	1.18
	2	I participate in live chat with other learners of English.	1.86	1.0
	3	I take notes while reading online to help me understand what	3.16	1.40
	4	I take an overall view of the online text to see what it is about before reading it.	4.1	1.01
	5	When online text becomes difficult, I read aloud to help understand what I read.	3.47	1.20
	6	I read slowly and carefully to make sure I understand what I	4.26	.92
	7	I try to get back on track when I lose concentration	3.64	1.02
	8	I use tables, figures, and pictures in the online text to increase my understanding	3.46	1.14
	9	I use context clues to help me better understand what I am	3.2	1.17
	10	I use typographical features like bold face and italics to identify key information	3.52	1.21
	11	I critically analyze and evaluate the information presented in	2.54	.95

	12	I check my understanding when I come across new	3.84	.91
	13	I try to guess what the content of the online text is about	3.32	1.01
	14	I try to guess what the content of the online text is about	3.18	1.17
	15	I scan the online text to get a basic idea of whether it will serve my purposes before choosing to read it	3.96	1.08
	16	I review the online text first by noting its characteristics like length and organization	3.48	1.11
	17	I print out a hard copy of the online text then underline or circle information to help me reading it.	3.32	.99
	18	I adjust my reading speed according to what I am reading online	3.76	1.0
	19	I stop reading for a moment when I feel stressed or confused.	3.70	1.18
	20	I stop from time to time and think about what I am reading online.	3.74	1.06
PROB	21	I try to picture or visualize information to help remember what I read online.	3.70	.97
	22	When online text becomes difficult, I re-read it to increase my understanding.	4.06	1.01
	23	When I read online, I guess the meaning of unknown word or phrases.	3.52	1.09
	24	I critically evaluate the on-line text before choosing to use the information I read	3.16	1.21
	25	I can distinguish between fact and opinion in online texts	3.48	1.03
SUP	26	I think about what I know to help me understand what I read	3.12	.96
	27	I think about whether the content of the online text fits my	3.1	.78
	28	When reading online text, I think about information in both English and my mother tongue	3.88	1.09
	29	I use reference materials (e.g. an online dictionary) to help me understand what I read online	3.84	1.09
	30	I paraphrase (restate ideas in my own words) to better understand what I read online	3.42	1.12
	31	I go back and forth in the online text to find relationships	3.62	1.04
	32	I ask myself questions I like to have answered in the online	3.13	1.13
	33	When reading online I translate from English to my native language before choosing to read it	3.76	1.13

The fifth most frequently used and the 5 least used strategies are reported in Table 3. The results in Table 3 indicated that Iraqi EFL Undergraduate Students showed a mixed usage of the three reading strategies (GLOB, PROB and SUP). However, the items belong to the GLOB and SUP appears among both the most and the least often used reading strategies. On the other hand, the PROB item appears only in the most often used category.

Table 3 *Most and least often used reading strategies*

Strategy Name	Most often used strategy	Mean
GLOB-6	I read slowly and carefully to make sure I understand what I am reading online.	4.26
GLOB-4	I take an overall view of the online text to see what it is about before reading it.	4.1
PROB-22	When online text becomes difficult, I re-read it to increase my understanding.	4.06
GLOB-15	I scan the online text to get a basic idea of whether it will serve my purposes before choosing to read it.	3.96
SUP-28	When reading online text, I think about information in both English and my mother tongue.	3.88
Strategy Name	Least often used strategy	Mean
GLOB-2	I participate in live chat with other learners of English.	1.86
GLOB-11	I critically analyze and evaluate the information presented in the online text.	2.54
SUP-27	I think about whether the content of the online text fits my reading purpose.	3.1
SUP-26	I think about what I know to help me understand what I read online.	3.12
SUP-32	I ask myself questions I like to have answered in the online text.	3.13

Table 3 reports the mean measurement of the variable. The preferred reading strategies adopted by most of the Iraqi EFL Undergraduate Students when reading online materials are read slowly and carefully (GLOB-6). The total average for overall view of the online text (GLOB-4), and scan the online text to get a basic idea (GLOB-15). It is shown that the respondents also preferred to use the re-read strategy to increase understanding (PROB-22) as well as using reference materials (SUP-28).

Two strategies were reported to be least or often used. Instead of these strategies, respondents used text live chat with other learners (GLOB-2) and critical analysis of information in the online text (GLOB-11). In addition, the results indicated that the respondents preferred not to use strategies involving thinking and asking question represented by (SUP-27, SUP-26, and SUP-32).

Regarding the second research question (Q2) which says that are there any significant differences between the three reading strategies among Iraqi EFL Undergraduate Students when reading online materials in English? Table 4 reveals the mean and standard deviation of each strategy group i.e. global (GLOB), problem solving (PROB), and support (SUP) strategies. The overall mean of the GLOB across all the items in this group was found to be 3.42 ± 0.58 which is considered to be in the moderate usage category. While the overall mean of the SUP was found to be 3.49 ± 0.30 which also fell in the moderate usage category. Interestingly, the respondents

showed a clear preference for the PROB reading strategies which were most frequently employed with high means of 3.59 ± 0.24 .

The paired t-test was employed to analyse the significance difference between the highest mean founded in PROB and the two other strategies GLOB and SUP (Hendrickson et al., 1993). As shown in Table 3, the GLOB and SUP reading strategies are significantly different than the PROB reading strategy.

Table 4. *Differences in Metacognitive Awareness of Reading Strategies Among Respondents*

Name of Strategy	N	Minimum	Maximum	Mean	S.D.	Sig.	
Global reading Strategy (GLOB)	50	3.18	4.26	3.42	0.58	GLOB	PROB
						p=0.009<0.05	
Problem Solving Strategy (PROB)	50	3.16	4.06	3.59	0.24		
Support Reading Strategy (SUP)	50	3.13	3.88	3.49	0.30	SUP	PROB
						p=0.02<0.05	

Discussion

Based on the above analysis, it was found that the respondents employed all three reading strategies which are GLOB, PROB and SUP reading strategies. This findings is in agreements with previous literature Ilustre (2011) and Jafari & Shokrpour (2012) which were conducted in similar circumstances. Similarly, it was found that problem-solving reading strategies most be used by the students based on the output (3.59 ± 0.24). The use of online English compendium among students was found to be an important tool for understanding English among the Iraqi Student. The students reported that note taking is also adopted to understand unfamiliar words (Piolat et al., 2005). Furthermore, the respondents also indicated that they used global reading strategies developed by (Mokhtari and Reichard, 2002) which include reading aloud, purposeful reading and predicting or guessing the meaning of the text. In addition to using support reading strategies, thinking about information in both English and mother tongue and use of reference materials such as online dictionary were also found to be helpful to the respondents.

With regard to the use of hyperlinks, it is evident that some of the respondents made predictions and inferred connections between the reading text, their background knowledge, and their reading purpose. In contrast, there are others, who indicated that they tend to click on links when they were uncertain of words or concepts embedded in the reading text. Therefore, for these students, new links are widely observed as source of word knowledge, rather than target locations where readers navigate pertinent and efficient pathways through online reading texts. As stated by the respondents, they tried to use different type of strategies to overcome their problems with online reading. These findings corroborate with the theoretical framework underpinning the study and the Metacognitive online strategies developed by Sheorey and Mokhtari, (2001). In addition, based on the results of the study, it appears that the respondents use the three online reading strategies to help them to overcome their problems when reading online texts.

Conclusion

This paper investigated the metacognitive reading strategies that Iraqi EFL students used when they read online materials. As indicated previously, the majority of the students had little experience or opportunity to increase these online reading skills and strategies as part of classroom instruction. The ultimate goal of educators is to enable students to be aware of these new technological tools for online reading. This will also enable them to overcome the learning challenges of the 21st century and educators will have to play an important role in enhancing students' awareness of such strategies. Educators should make conscious effort in assisting the students so that they can contribute to useful academic reading and develop their skills and strategies for online reading so the students become highly motivated in facing the challenges of online reading and have a certain level of confidence that would affect their classroom performance positively. It was found that there are facilities and tools such as dictionaries, search engines and hyperlinks that can help to make online reading for EFL learners efficient and effective. Nevertheless, as evident in the study, Iraqi English learners will become successful online readers, if they go beyond the ability to not only navigate site to locate important information. The use of search engines must be adopted to assess the helpfulness and dependability of the information encountered in the Internet. Most importantly, the findings show that the use of online reading strategies can improve the Iraqi EFL learners' attitude in increasing their reading process, and thus this signifies the importance of EFL learners mastering and knowing how to apply these reading strategies effectively.

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About the Authors

Zaini Amir is Associate Professor at Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia (UKM). She graduated with a PhD in English Language Studies from UKM. She has researched and published work on online language learning strategies; wireless technology and mobile assisted language learning.

Zahraa Mukhlif She obtained her bachelor degree in English language from Baghdad University College of languages 2005, followed by master of English language study from Universiti Kebangsaan Malaysia (UKM). Currently she is PhD candidate at the School of Language Studies and Linguistics, Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia (UKM). Her research interests include Computer Assisted Language Learning (CALL), computer-enhanced teaching and learning and online reading strategies.

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