Determining EFL students' awareness of metacognitive reading strategies[1]

Sinem Dündar[2]

Trakya University, Edirne-Turkey

Abstract

Reading is regarded as one of the most important skills in language learning process. Moreover, it is significant for learners to comprehend what they read and become aware of how they comprehend texts during the process of reading. However, foreign language learners may encounter problems when they read academic texts in English such as reading course books for tasks or exams, reading academic articles, journals, and so on. In this sense, it is significant to reveal EFL students' metacognitive awareness and perceived use of reading strategies in language learning process. In this study, quantitative research method was used through the implementation of a questionnaire developed by Mokhtari & Sheorey (2002) with the participation of twenty-five second-year EFL students attending the Department of Computer Science at Bialystok University of Technology in Poland. The findings of the study point out that it would be advantageous to raise EFL students' awareness of metacognitive reading strategies to make them become proficient foreign language learners.

Keywords: reading, reading strategies, metacognitive awareness, EFL learners

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[2] Research Assistant, Trakya University, Department of Foreign Language Education.
Email: sinemdogruer@trakya.edu.tr/dogruersinem@hotmail.com

Introduction

It is well-known that reading is one of the most significant skills of four skills for language learners. In this respect, various definitions have been put forward for the term "reading" so far. Urquhart & Weir (1998) define reading as the procedure of getting and interpreting knowledge that is represented in language structure through print. According to Grabe (2001), reading is the capacity that the reader receives knowledge from a text and integrates it with his/her knowledge and assumptions. It is obvious that there is a dynamic relationship between the reader and the text throughout the reading procedure; that is a text should appeal to its reader in order to make sense. On the other hand, it is significant for readers to comprehend what they read, and become aware of how they comprehend the text or realize how they deal with the issue when they do not comprehend what they read. For this reason, reading research has recently put emphasis on effective certain strategies which readers use during the reading process.

It is essential to identify the difference between "strategies" and "skills" since a variety of definitions have emerged about strategies, and it has become difficult to make a distinction between both terms. Uruquart & Weir (1998) distinguish strategies as 'reader-oriented'; whereas skills as 'text-oriented'. Moreover, Carrell, Gajdusek & Wise (1998) indicate that 'strategies' as a notion highlight the reader's dynamic involvement and genuine means of carrying out something, whereas the concept of 'skills' is likely to propose the competence or inactive abilities of the reader. On the other hand, reading strategies are defined by Aarnoutse & Schellings (2003) as the particular heuristics, techniques, or processes that are deliberately implemented by readers to sufficiently develop and comprehend the knowledge that exists in a text. Wallace (2003) also defines reading strategies as "the varying ways of dealing with problems confronted in the course of reading" (p.20). In the view of the definitions given above, it can be put forward that proficient readers can use reading strategies effectively to become competent in the reading process. In this context, recent research has focused on comprehending what efficient, skillful readers specifically perform while reading both in L1 and L2, including distinguishing strategy types they employ, how they utilize them, and when they perform those strategies (Mokhtari & Sheorey, 2002).

Literature review

It is well-accepted that reading comprehension has been the result of the multifaceted relationship between text, setting, reader, reader conditions, reading strategies, the native and target language, and reader management (Erler & Finkbeiner, 2007). To facilitate an efficient reading process, reading strategies play a significant role as there is a close relationship between reading comprehension and the frequency plus a variety of reading strategies made use of (Bimmel & Van Schooten, 2004). Auerbach & Paxton (1997) and Carrell, Pharis, & Liberto (1989) regard metacognitive awareness or metacognitive control as a vital element of proficient, strategic reading. Metacognition is the advanced stage of mental procedures that are learned and performed for the purpose of checking thoughts or comprehension of individuals (Danuwong, 2006). On the other hand, Flavell (1987) points out that apart from being regarded as a cognitive dimension, metacognition can

be examined in terms of by affective aspects as well. According to Flavell (1987), metacognition is the information and cognition related to cognitive elements. Nevertheless, the term can be extended to cover psychological concepts as well rather than cognitive entities. Thus, metacognitive knowledge is the part of the entire knowledge which belongs to this content area.

Metacognitive strategies particularly manage pre-evaluation and pre-organization; on-line organization and assessment; post-assessment of language learning actions and language use outcome (Cohen, 1998). These strategies enable learners to manipulate their own cognition by organizing, planning, and evaluating the learning process. Thus, L2 learners, who possess meta cognitive awareness, are able to plan for effective learning, organize when to employ specific strategies, know how to check the use of strategies, learn how to combine different strategies, and evaluate the effectiveness of strategy use (Anderson, 2015).

Mokhtari & Sheorey (2002, p.436) classify metacognitive reading strategy use in three broad categories as "Global Reading Strategies (GLOB), Problem Solving Strategies (PROB) and Support Strategies (SUP)", and they are defined in detail as follows:

- *Global Reading Strategies (GLOB)* help learners to control or deal with their reading through deliberate, cautiously arranged techniques (e.g. having a target, previewing the reading text with regard to its design and arrangement, or utilizing graphs, tables, and figures.

- *Problem Solving Strategies (PROB)* are the activities and processes performed by the readers while they are dealing with the text directly. Readers use these strategies as confined, attentive techniques when they have problems in comprehending texts. For instance, adapting to reading speed when the textual information becomes easy or difficult to understand, predicting the meanings of unknown vocabulary, and reading the text again to understand the text better.

- *Support Strategies (SUP)* are essential assistance system aimed to support the reader in terms of understanding the text. (e.g. using a dictionary, note-taking, underlining, or highlighting textual information)

With regard to metacognitive reading strategy use of language learners, there is various recent research conducted in different contexts with different participants. Hence, it is notable to examine the current ones to get profound perspective related to the issue.

Sheorey & Mokhtari (2001) investigated reading strategies use of native and non-native English speakers while they were reading academic texts. According to the results of their study, it was found that both US and ESL learners had an awareness of approximately all the strategy categories. What's more, the participants showed the same significance to the reading strategies included in the survey despite their reading capacity or gender; they mostly used *cognitive strategies* followed by *metacognitive strategies* and *SUP strategies*. Furthermore, more proficient readers of both groups demonstrated higher use of cognitive and metacognitive reading strategies. Finally, US female learners reported higher frequency of strategy use.

In their study titled 'Metacognitive Awareness of Reading Strategies of Turkish Learners Who Learn English as a Foreign Language' Temur & Bahar (2011) found that university students employ PROB, GLOB, and SUP strategies. The most reported strategy type was the PROB strategies, whereas the least reported one was found to be the SUP strategies. Moreover, the results of the study indicate that freshmen utilized GLOB, SUP and PROB strategies more than the other university students.

In another study, Yüksel & Yüksel (2012) examined metacognitive awareness of academic reading strategies of learners studying at a Turkish university. The results of the study revealed that the learners frequently employed academic reading strategies. Furthermore, they mostly used and were aware of PROB strategies, but the SUP strategies were the least preferred one in academic reading.

Alhaqbani & Riazi (2012) studied university learners' awareness of reading strategies when they deal with Arabic academic texts. It was found in the study that African learners used more GLOB strategies than Asian learners, and junior and senior learners constantly employed more strategy use in terms of all the three reading strategies rather than the first and second-year learners.

In the study, 'A Quantitative Survey on Metacognitive Awareness of Reading Strategy Use in English by Japanese University Students', Shikano (2013) examined the university students' reading strategy use and their comprehension monitoring. The results of the study revealed that the participants were inclined to employ PROB strategies more frequently than GLOB and SUP strategies. On the other hand, there were no significant differences between the high and low reading-proficiency groups.

Regarding the previous research on metacognitive awareness of reading strategies, it would be beneficial to conduct a study investigating EFL students' awareness of reading strategies when they are dealing with academic texts in language learning process. It is assumed that conducting such kind of a study would be enlightening in terms of gaining more awareness about reading strategies employed by EFL learners in different contexts. Hence, the results of the study may provide more insight for educational settings by revealing the reading strategies preferred by EFL learners in academic contexts.

Methodology

Research problem and research questions

Foreign language learners can encounter problems when they read academic texts in English such as reading course books for tasks or exams, reading academic articles, and so on. In this respect, it is significant to reveal EFL Students' metacognitive awareness and perceived use of reading strategies in language learning process.

In relation to this notion, the following research questions can be sought to determine EFL students' awareness of reading strategies:

✓ Are EFL learners aware of certain strategies they use in understanding academic texts in English?

✓ What are the main strategies used by EFL learners when they read academic texts in English?

✓ What are the ways of boosting EFL students' awareness of reading strategies?

Setting and participants

The participants of this study were 25 students attending the Department of Computer Science at Bialystok University of Technology in Poland. These students were the second-year students, and they were offered "Foreign Language (English)" as a compulsory course in their second semester. They were required to take the course two hours a week, namely 30 hours in a year. These students were also offered Foreign Language-English Course in both semesters (fall-spring) of their first-year study. The proficiency level of the students was B1 according to Common European Framework, which can be considered as intermediate level. In this sense, participants are assumed to comprehend the major parts of obvious standard input about common subjects that are often come across in daily life; engage in main circumstances during traveling in a place where the language is spoken; generate basic related text on subjects that are common or special interest; illustrate knowledge and occasion, or their feelings; express their opinions and plans in a short way (Council of Europe, 2001). On the other hand, the students' age, gender, and social background were not taken into consideration in the study.

Methodology and instrument

Research method

As it is stated by Dörnyei (2007), quantitative findings are inclined to appeal a universally high reputation through involving precise measurement, the study was carried out by using quantitative research method. Data gathered from the results of the questionnaire were analyzed statistically. For the statistical analysis of data, SPSS (Statistical Package for Social Sciences) 15.0 for Windows was used to figure out the frequency and percentile values of the students' metacognitive awareness and perceived use of reading strategies by determining the rate of individual response given to the statements.

In this study, the students were asked to respond the questionnaire investigating their present reading strategies they employ when they read academic texts in English (e.g. reading course books for tasks or exams, reading academic articles, etc.). They were asked to fill out the questionnaire at the end of the spring semester of their second-year. Students were asked to participate voluntarily in the survey. They responded the statements of the questionnaire in English as the questionnaire was designed in the target language.

The questionnaire

The questionnaire used in the study was adapted from Mokhtari & Reichard (2002) and later on developed by Mokhtari & Sheorey (2002) to determine metacognitive awareness and perceived use of reading strategies. The questionnaire is composed of 30 closed-ended items on a 5 point-Likert scale which ranges from 1 ("I never or almost never do this") to 5 ("I always or almost always do this"). The questionnaire was administered in Bialystok, Poland. The participants were given 15 minutes to complete the questionnaire towards the

end of their course. They were asked to read each statement carefully and indicate the frequency of the strategy they use as implied in the statements. The instrument reveals three broad categories of reading strategy use; that is GLOB strategies, PROB strategies, and SUP strategies. These three categories of reading strategies were depended upon Metacognitive-Awareness of Reading-Strategies-Inventory's (MARSI) factor analyses and theoretical considerations (Mokhtari & Sheorey, 2002). Of 30 items, 13 items pertain to statements related to GLOB strategies, 8 items to PROB strategies, and 9 items to SUP strategies which are designed in a mixed order in the instrument.

Mokhtari & Sheorey (2002) also point out that the SORS is scored on a 5-point Likert scale. The scores of 2.4 or below indicate low strategy use, 2.5 to 3.4 demonstrate moderate strategy use, and 3.5 or above refer to high strategy use.

Findings

In this study, frequency and percentile values of the responses were calculated in order to find out students' metacognitive awareness and perceived use of reading strategies when they read academic texts in English. The frequency and percentile values of each item were analyzed and displayed in three tables separately. Moreover, how often students use reading strategies when reading academic texts are also displayed in three separate tables.

Table 1

Frequency and Percentage Rate of Students' GLOB Strategy Use

	NEVER		ONLY OCCASIONALLY		SOMETIMES		USUALLY		ALWAYS	
	f	%	f	%	f	%	f	%	f	%
Q1 Having a target for reading.	2	8,0	-	-	7	28,0	14	56,0	2	8,0
Q3 Using already known information for reading.	3	12,0	2	8,0	6	24,0	12	48,0	2	8,0
Q4 Overviewing the text before reading.	2	8,0	5	20,0	7	28,0	6	24,0	5	20,0
Q6 Checking whether text content fits target or not.	2	8,0	4	16,0	8	32,0	9	36,0	2	8,0
Q8 Paying attention to text features. (e.g. length and organization)	9	36,0	7	28,0	4	16,0	4	16,0	1	4,0
Q12 Making a decision for what to read.	2	8,0	2	8,0	5	20,0	8	32,0	8	32,0
Q15 Utilizing text characteristics such as tables, figures, and pictures.	1	4,0	5	20,0	7	28,0	6	24,0	6	24,0
Q17 Employing context hints.	1	4,0	4	16,0	8	32,0	8	32,0	4	10,0
Q20 Employing typographical features. (e.g. bold face, italics)	6	24,0	4	16,0	2	8,0	9	36,0	4	16,0
Q21 Examining and evaluating the textual knowledge.	1	4,0	6	24,0	12	48,0	5	20,0	1	4,0

	NEVER								
Q23 Monitoring comprehension when encountered with new information.	1	4,0	5	20,0	8	32,0	6	24,0	5	20,0
Q24 Predicting text content.	3	12,0	1	4,0	6	24,0	8	32,0	7	28,0
Q27 Confirming guesses.	3	12,0	5	20,0	6	24,0	5	20,0	6	24,0

Table 1 presents the frequency and percentage of students' GLOB strategy use. It is evident in Table 1 that more than half of the students (56%) state that they usually have a target when they read. Apart from this, nearly half of the students (48%) indicate that they usually monitor their prior knowledge for reading comprehension, and critically examine and evaluate the textual knowledge. Moreover, 36 % of them (9 students) claim that they never assess the text primarily by paying attention to its features such as its design and information. The same amount of the students (36%) point out that they usually utilize typographical characteristics such as bold face and italics to recognize main knowledge. On the other hand, only 4 % of them (1 student) thinks that s/he never uses tables, figures, and pictures in text to boost his/her comprehension, and never uses context hints to enable him/her to comprehend reading better.

Table 2

Frequency and Percentage Rate of Students' PROB Strategy Use

	NEVER		ONLY OCCASIONALLY		SOMETIMES		USUALLY		ALWAYS	
	f	%	f	%	f	%	f	%	f	%
Q7 Reading slowly and carefully to confirm reading comprehension.	3	12,0	4	16,0	10	40,0	3	12,0	5	20,0
Q9 Trying to keep concentrated when attention is lost.	1	4,0	-	-	2	8,0	9	36,0	13	52,0
Q11 Arranging reading speed.	1	4,0	-	-	8	32,0	7	28,0	5	36,0
Q14 Attaching importance to text when it becomes difficult to understand.	1	4,0	-	-	5	20,0	10	40,0	9	36,0
Q16 Pausing and monitoring thinking.	4	16,0	6	24,0	9	36,0	5	20,0	1	4,0
Q19 Visualizing textual knowledge.	6	24,0	5	20,0	4	16,0	3	12,0	7	28,0
Q25 Re-reading the text when it becomes difficult to understand.	1	4,0	1	4,0	3	12,0	14	56,0	6	24,0
Q28 Predicting the meaning of unknown words or phrases.	1	4,0	2	8,0	4	16,0	8	32,0	10	40,0

Table 2 demonstrates the frequency and percentage rate of students' PROB Strategy Use. As it is apparent in Table 2, more than half of the students (56 %) agree that when it is difficult to comprehend the text, they generally read it again to boost their comprehension. Furthermore,   52 % of the students think that they always attempt to stay focused when they lose concentration. On the other hand, 40 % of the students state that they sometimes read slowly and in a careful way to confirm they understand what they are reading, when it is hard to comprehend the text, they generally attach importance to what they are reading, and they always predict the meanings of unknown words or phrases during reading.

Table 3

Frequency and Percentage Rate of Students' SUP Strategies Use

	NEVER		ONLY OCCASIONALLY		SOMETIMES		USUALLY		ALWAYS	
	f	%	f	%	f	%	f	%	f	%
Q2 Taking notes for better understanding.	11	44,0	6	24,0	4	16,0	2	8,0	2	8,0
Q5 Reading aloud for better understanding when the text becomes hard.	12	48,0	7	28,0	2	8,0	2	8,0	2	8,0
Q10 Underlining the textual information to aid remembering.	6	24,0	5	20,0	3	12,0	7	28,0	4	16,0
Q13 Utilizing reference materials like a dictionary to comprehend reading.	4	16,0	5	20,0	7	28,0	5	20,0	4	16,0
Q18 Paraphrasing for reading comprehension.	4	16,0	8	32,0	4	16,0	6	24,0	3	12,0
Q22 Reviewing the text to find out links among notions in it.	2	8,0	5	20,0	11	44,0	6	24,0	1	4,0
Q26 Asking oneself questions.	7	28,0	5	20,0	10	40,0	1	4,0	2	8,0
Q29 Translating from target language to the native language.	6	24,0	4	16,0	4	16,0	7	28,0	4	16,0
Q30 Monitoring textual knowledge information in both English and native language.	4	16,0	6	24,0	5	20,0	3	12,0	7	28,0

Table 3 shows that nearly half of the students (48%) state that when it is difficult to comprehend the text, they never read aloud to enable them to comprehend what they read. While 44 % of them (11 students) think that they never take notes while reading for making them comprehend what they read, and they sometimes revise the text to find out links among

notions in it, 40 % of them (10 students) agree that they sometimes ask themselves questions they like to find answers in the text.

Table 4

Strategies Used with High Frequency

Category	Mean	Level
PROB 9	3.56	High

The result of Table 4 displays that the statement *"I try to get back on track when I lose concentration"* has the mean of 3.56, and it is the most preferred strategy with high frequency within the scope of PROB.

Table 5

Strategies Used with Moderate Frequency

Category	Mean	Level
PROB 14	3.36	Moderate
PROB 28	3.30	Moderate
PROB 11	3.26	Moderate
PROB 25	3.23	Moderate
GLOB 12	3.10	Moderate
GLOB 24	2.96	Moderate
GLOB 1	2.90	Moderate
GLOB 4	2.90	Moderate
GLOB 17	2.83	Moderate
GLOB 15	2.80	Moderate
GLOB 23	2.80	Moderate
GLOB 3	2.76	Moderate
GLOB 6	2.70	Moderate
GLOB 27	2.70	Moderate
SUP 30	2.60	Moderate
PROB 7	2.56	Moderate
GLOB 20	2.55	Moderate
13 SUP	2.50	Moderate
19 PROB	2.50	Moderate

Table 5 illustrates that students used 19 strategies with moderate frequency with mean scores between 3.36 and 2.50. Of the top ten strategies, 6 were GLOB, while 4 were PROB strategies.

Table 6

Strategies Used with Low Frequency

Category	Mean	Level
GLOB 21	2.46	Low
SUP 22	2.46	Low
SUP 29	2.46	Low
SUP 10	2.43	Low
SUP 18	2.36	Low
PROB 16	2.26	Low
SUP 26	2.03	Low
GLOB 8	1.86	Low
SUP 2	1.76	Low
SUP 5	1.66	Low

Finally, Table 6 demonstrates that students used 10 strategies with low frequency. Of those ten strategies, 7 were SUP strategies, 2 were GLOB strategies, and only one of them was PROB strategy.

Discussion and conclusion

The aim of this study was to find out certain reading strategies that are used by EFL learners in terms of comprehending academic texts in English. Conducting such kind of study helped foreign language learners become aware of certain strategies they use when they are involved in academic texts in English and also provided practical suggestions for improved practices in developmental reading instruction. On the basis of the research questions of the study, a questionnaire was implemented to the second-year students attending the Department of Computer Science at the Bialystok University of Technology in Poland. As mentioned in the methodology part, the results of the questionnaire were analyzed in terms of frequency and percentile values. Moreover, mean scores of strategies used with high, medium, and low frequencies were presented in the study.

The results of the questionnaire illustrated that these learners generally had a purpose for reading. This means that they read texts related to their needs, which demonstrated that they were conscious learners. Moreover, learners indicated that they thought about what they knew while trying to comprehend and evaluate the texts. This shows that they use their background knowledge to comprehend what they read during the reading process. On the other hand, it was found out that most of the students used tables, figures, or pictures in texts

for increasing their understanding. This may be the reason of the fact that learners are involved in numerical facts as they are computer science students.

The findings revealed that students preferred to read the text again when it became difficult for them and tried to concentrate on what they were reading more slowly and carefully. Moreover, they mostly tried to guess the meaning of unknown words or phrases. This means, students regard concentration as an important element in terms of understanding a text. On the other hand, it was also found out that students never preferred to read aloud when they had difficulty in comprehending the texts. Moreover, they did not prefer to take notes during the reading process. The results imply that it can be beneficial to make students practice taking notes since they never use this strategy.

An interesting finding of the study was that students used only one metacognitive strategy, that is PROB strategies with high frequency. It is also seen that the least preferred strategies they used were SUP strategies such as taking notes or reading aloud while reading to help them understand what they read as mentioned before. Hence, the results indicate that students do not prefer to use metacognitive reading strategies in general as these learners can be regarded as moderate users of strategies. The findings of the study are consistent with certain studies (Temur & Bahar, 2011; Shikano, 2013; Yüksel & Yüksel, 2012) which favored PROB strategies as the highest preferred one of the overall strategies.

As a result of the findings of the study, it was found out that it is essential to boost learners' awareness in terms of metacognitive reading strategies since it is obvious that they do not tend to use reading strategies during learning process. As literature demonstrates that reading strategies improve reading comprehension and leads to fluent reading, they can be taught to less proficient readers, and can be integrated into reading programs. For such programs, Hudson (2007) gives a description of successful strategy training programs that involve modeling and demonstrating in a constant manner and providing ample opportunities for practice across different texts and tasks rather than simply giving lists of strategies. Janzen & Stoller (1998) also suggest that in order to develop a successful strategy training program four criteria have to be met, which are choosing a text appropriate for students' level, selecting strategies for training, planning lessons for the presentation of strategies, and adapting the instruction of strategies in accordance with students' needs and reactions.

Consequently, it would be essential for language teachers to emphasize how to employ certain reading strategies in their courses to increase foreign language learners' awareness. By making learners use certain metacognitive strategies in reading classrooms, there may be an increase in the proficiency level of the students. Moreover, learners may become proficient foreign language readers, which would provide a positive outcome in their language learning process.

Suggestions for further studies

In the light of the findings and conclusion, the following suggestions can be made for students, language teachers, and syllabus designers:

✓   In this study, it was found out that learners did not prefer to utilize metacognitive reading strategies. However, more studies with further points of views may be conducted to generalize the findings gathered in the study.

✓   Syllabus designers may include teaching how to use certain reading strategies in language learning process so as to boost students' awareness about using different strategies. Furthermore, language teachers can be trained in order to attach importance to make their learners use reading strategies in language classrooms.

Limitations of the study

Some limitations may be suggested in order to elucidate the boundaries of the study.

✓   The number of the participants of this study was restricted to 25 second year students attending the Department of Computer Science at Bialystok University of Technology. Performing the study with a larger sample size and in different contexts would allow a greater assurance about the findings.

✓   While conducting the study, students' age, gender, social and educational backgrounds were not taken into consideration. Regarding more characteristics of the students would provide more affluent data which may lead to developing different points of views for the study.

✓   This study is descriptive, and only quantitative data was utilized in data collection phase. Thus, qualitative data collection instruments such as observations, interviews, or diaries, etc. could also be included to confirm and enrich the results of the study.

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