

Metacognitive Awareness and Perceived Use of Reading Strategies in Academic Reading Comprehension: Case of Algerian EFL Students

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Abstract:

This study investigates the reported use of reading strategies and metacognitive awareness of EFL students when reading academic materials. Participants were 220 second year undergraduate students from the department of English as a Foreign Language at Mouloud Mammeri University. They completed a 15- item survey of metacognitive reading strategies (MARS) aimed at describing their reading strategies use when dealing with academic reading comprehension. Statistical Package for Social Sciences was used to determine the frequency and type of strategies employed by the participants. The results revealed that students' level of awareness of reading strategies is in the medium range. It also demonstrated a predominant use of support reading strategies and a lower frequency use of problem solving strategies and global reading strategies. Implications for students' instruction in reading strategies to raise their awareness and to achieve reading comprehension are suggested.

Key words: *English as a Foreign Language, Metacognitive Awareness, Reading Comprehension, Reading Strategies.*

Introduction

Reading is a significant skill for academic success. The advent of the internet and technologies increases the need for effective reading skills and strategies as readers try to cope with the large quantities of information that is available for them. In other words, electronic communication growth, rather than compensating for weak literacy skills, only amplifies the need for skilled reading ability (Grabe, 2009). Moreover, within the context of EFL learning, where English is the medium of instruction and most of the academic sources are in English, students are required to read academic texts effectively and efficiently. Yet, this requires an adequate use of Reading strategies. In other words, effective readers employ a variety of strategies to monitor their comprehension of academic texts.

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Over the past century, Researchers, as well as language instructors have become increasingly interested in examining the strategies second and foreign language learners use during reading and their impact on successful and unsuccessful reading comprehension (Aghaie & Zhang 2012; Anderson, 1991; Janzan, 2002; Mokhtari & Reichard, 2004; Singhal, 2001; Zhang & Liu, 2017). Anderson (1991) highlighted that readers need to possess both knowledge about strategies and the ability to apply strategies effectively for reading comprehension achievement.

Research in the field of reading strategies has led to a renewed interest in the role of metacognition in reading and more specifically the issue of metacognitive awareness of reading strategies. Auerbach and Paxton (1997) reported that metacognitive awareness entails knowledge of strategies for processing texts, the ability to monitor comprehension and the ability to adjust strategies as needed. Several studies investigated reading strategies employed by readers to monitor their comprehension of academic texts (Anderson, 2004; Baker & Brown, 1980; Carrell, Pharis & Liberto, 1989; Mokhtari & Shoery, 2002; Yüksel & Yüksel, 2012). These studies focused on how readers engage in reading a text and how they think about their reading processes. Moreover, Metacognitive awareness is an important characteristic that distinguishes proficient readers from less proficient readers. Carrell, Pharis, and Liberto (1989) suggested that better readers are more metacognitive in their approach and metacognitive awareness in which readers consciously direct the reading process is an important aspect of strategic reading. Similarly, O'Malley, Chamot, Stewner-Manzanares, Russo, and Küpper (1989) highlighted that students without metacognitive approaches are essentially learners without direction or opportunity to review their progress, accomplishments, and future directions.

For university students in EFL context, developing awareness of effective and appropriate strategies use is crucial to achieve reading comprehension. They have to read a considerable amount of academic texts in English such as linguistic texts, literary texts, preparing projects and also analyzing passages for their exams. Consequently, it is essential for them to possess both knowledge and ability to use reading strategies to overcome comprehension difficulties and to accomplish their learning goals. Accordingly, this paper aims to investigate the participants' perceived use and metacognitive awareness of academic reading strategies. As a first step it attempts to define the students' level of awareness of reading strategies used in academic reading comprehension. Further, it intends to reveal the frequency and types of reading strategies used by the students (global, problem solving, support strategies). This study is essential for both teachers and students as it allows deriving EFL Algerian students' profile of reading strategies.

The research questions reflecting this aim are:

1. What is Algerian EFL students' level of metacognitive awareness of academic reading strategies?
2. What are the types and frequency use of reading strategies by Algerian EFL students?

I. Literature Review

1. Reading Strategies and Reading Comprehension

With the advent of the interactive models of reading, researchers and educators in English as a Second Language and English as a Foreign Language (ESL/EFL) recognized that reading is an active process rather than a merely receptive skill. It is defined as an interactive cognitive process in which readers are strategically engaged to construct meaning from a written text (Yüksel & Yüksel, 2012). Principally, Reading is a combination of the lower level processes, which involve word recognition and the ability to combine those words into syntactic and semantic units, and the higher-level processes that involve a reader's ability to activate prior knowledge and monitor comprehension of the text. Anderson (2004) noted that reading is a fluent process and the goal is comprehension. So, reading comprehension is seen as a constructive process that uses the students' cognitive and metacognitive strategies to build the understanding of the text.

Notably, reading comprehension achievement is usually associated to reading strategies. Strategic reading is the ability of the reader to use a variety of reading strategies to accomplish a purpose in reading. In addition, good readers must know what to do when they encounter difficulties. The reader must know how to deploy any reading strategy successfully and orchestrates its use with other strategies according to the task at hand (Anderson, 1991). Oxford (2017) stated that reading comprehension is enhanced when the individual actively reflects on what he or she is reading. Furthermore, Carrell et al. (1989) stressed the importance of reading strategies when they advocated that reading strategies are of interest for what they reveal about the way readers manage their interactions with written texts and how these strategies are related to reading comprehension. According to Oxford (2017), reading strategies are teachable, dynamic thoughts and behaviors that learners consciously select and employ in specific contexts to improve their self-regulated and autonomous Second Language (L2) development for effective task performance and long term proficiency. She distinguished five types of reading strategies: cognitive, memory, compensation, metacognitive, affective, and social strategies.

2. Metacognition Defined

The term metacognition was first coined by Flavell (1979). He described metacognition as someone's conscious ability to understand, control, and regulates his or her own cognitive process to reach maximum learning (Flavell, 1979). Metacognition consists of two components; knowledge about cognition and regulation of cognition. Knowledge of cognition (metacognitive knowledge) refers to the knowledge of learning process in reading. It is the knowledge of strategies that affects the cognitive process. It includes declarative knowledge (know what), procedural knowledge (knowing how), and conditional or strategic knowledge (knowing why). Anderson (2002) referred to metacognition as the ability that makes our thinking visible. It is also the ability to reflect on what we know and do and we do not know and do not do. According to him metacognition can be divided into five primary components: preparing and planning for learning, selecting and using learning strategies, monitoring strategy use, orchestrating various strategies, and evaluating strategy use and learning. Anderson stresses the fact that Metacognition cannot be represented by one of the five elements in isolation. It is the blending of all five elements. Further, Darjito (2019) defined

metacognition as a psychological process monitoring the cognition which, in relation to literacy, refers to activating reading strategies.

3. Metacognitive Awareness of Reading Strategies

Metacognition in reading entails knowledge of strategies for processing texts, the ability to monitor comprehension and the ability to adjust strategies as needed (Oxford, 2017). Metacognitive reading strategies awareness is defined as the awareness of individuals in using their cognitive process which enables them to be more proficient readers. It is also defined as an individual reader awareness of using his thinking process to achieve reading comprehension. Moreover, this awareness refers to the reader's cognitive control or thinking process which leads to his reading strategies (Ahmadi, Ismail, & Abdullah, 2013).

Metacognition plays a vital role in reading and better readers are metacognitive in their approach (Carrell et al. 1989). In other words, metacognitive awareness and metacognitive control in which the reader consciously directs the reasoning process is an aspect of strategic reading. Additionally, successful readers monitor their reading and the state of their learning. They plan strategies, adjust effort appropriately and evaluate the process of their ongoing efforts to understand. For Carrell et al. (1989) metacognitive awareness in reading consists of two types of cognition: ones' knowledge of strategies for learning from texts and the control readers have of their own actions while reading for different purposes. Baker and Brown (1980) described two clusters of activities that are involved in metacognition. Those that concerns people's knowledge about their own cognitive resources such as knowing what skills we need to study for a test and knowing we are ready to be tested. Then, those that regulate learning activities such as checking comprehension and deciding what kind of strategic action to take and when to take it if comprehension is faulty. Effective readers possess well developed metacognitive skills; they are aware of and have a degree of control over their cognitive activities when they read.

4. Research on Metacognitive Awareness of Reading Strategies

In exploratory, descriptive investigations several studies tackled the issue of metacognitive awareness of reading strategies either to define the readers' profiles of reading strategies or to establish a correlation between the reading strategies use and different individual characteristics; language proficiency, gender, background knowledge, field of study, ethnicity.

A study by Dallagi (2021) investigated the choice and frequency of reading strategies in the Tunisian university context. It examines and compares how students majoring in four different disciplines, namely English, French, Medicine and Engineering, make use of strategies while reading English for academic purposes texts. It also aimed at identifying an eventual correlation between strategy use, proficiency level, specialty and gender. 147 students answered a survey of reading strategies. The data analysis revealed a higher frequency rate of strategy use among the participants. Yet, Humanities students are more conscious of strategies than Medicine and Engineering students. It also showed that frequency of strategies is not necessarily related to proficiency level.

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Similarly, Kazi, Moghal, and Asad (2020) explored reading strategies used by undergraduate students in Pakistan. The results indicated that participants are weak strategic readers and their metacognitive strategy use is not high. The study revealed that students from humanities field of study reported higher use of reading strategies than students from science field of study.

Another study by Yüksel and Yüksel (2012) investigated the type of reading strategies and metacognitive awareness level of Turkish EFL university students. The findings of the study reported a high frequency awareness of reading strategies among the participants. It also revealed a prevalent use of problem- solving strategies type.

Likewise, Anderson (2004) explored differences in metacognitive reading strategy awareness between learners in an ESL setting versus learners in an EFL setting among 396 English learners. The Data were collected through a survey of reading strategies. Data analysis revealed that there was no significant difference between ESL and EFL readers for the overall perceived strategy use while reading academic materials. However, participants in the EFL environment reported a higher use of problem- solving strategies, like adjusting reading rate, re-reading difficult texts and pausing to think about what one's is reading, than did the readers in the ESL environment. The results also suggested a significant relationship between reported strategy use and self-rated reading ability; the higher one's self-assessment of reading ability in English, the higher the use of reading strategies.

Another study by Mokhtari and Reichard (2004) explored differences between ESL and EFL students' use of reading strategies and metacognitive awareness. The study revealed that participants from EFL environments reported more usage of different types of reading strategies.

II. Research Methodology

1. Participants

The sample population in this study is 220 EFL second year undergraduate students enrolled at English Department at Mouloud Mammeri University of Tizi- Ouzou for 2020/2021 academic year. Their age ranged from 18 to 24 years old including 162 female students and 53 male students. All participants took a reading/ writing course during their first year where they have been introduced to reading strategies. Besides, they have to read a variety of academic texts for the assignments and exams of other courses.

2. Data Collection Instruments and Procedure:

a. Instrument

The methodological approach is quantitative. A self- report instrument adapted from Mokhtari, Dimitrov, and Reichard (2018) is used for data collection. Metacognitive Awareness of Reading Strategies Inventory (MARS) is developed to measure ESL/EFL adolescents' and adults' metacognitive awareness and perceived use of reading strategies. The survey comprises 15 items, each to be rated on a 5- point Likert scale and involves three reading strategies sub- categories:

Global Reading Strategies (GRS= 5 items): these are the monitoring techniques that are intended to set the stage for the reading act.

Problem- Solving Strategies (PSS= 5 items): these are procedures used directly when the reader works with the text. They are used to repair and solve problems that occur when understanding a text.

Support Reading Strategies (SRS= 5 items): these are basic support tools intended to help the reader in comprehending the text.

Mokhtari et al. (2018) provided a key to interpret the mean for each item and overall items ratings of MARSI. They considered ≤ 2.4 as low usage, 2.5-3.5 as medium usage, and ≥ 3.5 as high usage. The researchers used the same rating to interpret item means in the present paper.

b. Procedure

The questionnaire was administered to the participants during the first term semester of academic year of 2020/2021. The participants were told that there were no right or wrong answers and they were asked to provide answers that are related to their own performance in academic reading comprehension.

3. Results

The Statistical Package for Social Sciences (SPSS) was used to analyze the data. The descriptive statistics were used to compute the means and the standard deviations to understand the participants' levels of awareness and use of reading strategies and to derive their profiles. The first section of the survey was devoted to identify general information about the participants. As far as their age is concerned it ranged from 18 years old to 24 years old. Concerning gender 27.27% were male students and 72.73% were female students. Besides, the participants were asked to identify their perceived reading ability. The results revealed 3.2% perceived themselves as "good readers", 36.4% identified themselves as "poor readers", 50% considered themselves "average readers", 10.5% perceived themselves as "poor readers".

a. Participants Overall Awareness of Reading Strategies

Table1. Students' Metacognitive Awareness of Reading Strategies

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MARSI subscales	Mean	Sd	Rank
Global reading strategies	2.6	,77	3
Problem- solving strategies	3.1	,73	2
Support reading strategies	3.8	,66	1
Overall mean	3.2	,55	

As Table 1 indicates, the overall mean for strategy use is in the medium range with 3, 2. The participants reported that they mostly used support reading strategies while reading academic texts with the mean value of 3, 8. This category is followed by the problem- solving reading strategies (mean= 3.1). The least used strategy category among them was found to be the global reading strategies with the mean value of 2, 6. To have a clear image of these results and interpret the reasons underlying them, each item under each strategy category was analyzed. As shown in Table 2 below, the mean value and the standard deviation for each item under each strategy type are provided with the highlighted most frequent strategy types.

b. Participants Frequency Use and Types of Reading Strategies

Table2. Students' Responses to Frequency Use of Global Reading Strategies (GRS)

Strategies		M	SD	Average use	Rank
GRS1	Having a purpose in mind when I read	3,05	1,34	Medium	2
GRS2	Previewing text before reading it	3,15	1,33	Medium	1
GRS3	Checking how text content fits the purpose	2,79	1,40	Medium	3
GRS4	Using typographical aids to pick out key information.	2,14	1,29	Low	4
GRS5	Critically analyzing and evaluating the text	1,95	1,09	Low	5
Overall		2.6	,77	Low	

Based on table 2, global reading strategies category was reported as low to medium average use with 1.95 to 3.15 mean values. The highest score was given to previewing text before reading it. Then, it is followed by having a purpose in mind when reading. The least used item in this category is critically analyzing and evaluating the text. It scored a low average use of 1.95 mean values.

Table3. Participants' Responses to Frequency Use of Problem Solving Strategies (PSS)

Strategies	M	SD	Average use	Rank
PSS1 Trying to stay focused on reading	2,50	1,41	Medium	4
PSS2 Adjusting reading speed based on text.	2,18	1,28	Low	5
PSS3 Pausing and thinking about reading	3,24	1,49	Medium	3
PSS4 Re-reading for better understanding.	4,06	1,11	High	1
PSS5 Guessing the meaning of unknown words or phrases.	3,96	1,14	High	2
Overall	3.01	,73	Medium	

Table 3 shows students' frequency use of Problem- solving strategies ranged from low to high average use with 2.18 to 4.06 mean values. The most frequent used strategy is re-reading for better understanding with high mean value of 4.06. The second strategy is guessing meaning of unknown words or phrases with 3.96 mean values. The two strategies of trying to stay focused on reading and adjusting reading speed based on text seem to be less used by the participants with 2.50 and 2.18 mean values.

Table 4. Students' Responses to Frequency Use of Support Reading Strategies (SRS)

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Strategies	M	SD	Average use	Rank
SRS1 Taking notes while reading.	3,86	1,12	High	3
SRS2 Reading aloud to understand the text.	3,85	1,19	High	4
SRS3 Discussing what I read with others to check my understanding.	3,55	1,34	High	5
SRS4 Underlining or circling important information in the text.	4,09	1,20	High	1
SRS5 Using reference materials such as dictionaries to support reading.	3,90	1,27	High	2
Overall	3.8	,66	High	

As table 4 indicates, the support reading strategies are reported to be at high level usage. In fact, the five strategies were reported as high level use with 3.55 to 4.09 mean values. Underlining or circling important information in the text is at the top use with 4.09 mean values. The second preferred strategy in this category is using reference materials such as dictionaries to support reading. On the other hand, the two strategies taking notes while reading and reading aloud to understand the text are reported as high level use with 3.86 and 3.85 mean values.

III. Discussion

This study reports the students' metacognitive awareness and their frequency use of reading strategies while reading academic materials. The findings will help to derive undergraduate students' profile characteristics which are useful to understand their level of awareness and use of metacognitive reading strategies.

An important finding to emerge in this study is that students' metacognitive awareness of academic reading strategies is revealed to be at medium level usage. It is apparent from table 1 that overall means for all the strategies are in the medium range. This finding suggests that metacognitive reading strategy use for the participants is not highly prevalent and they use reading strategies only occasionally. Thus, it can be claimed that despite the importance of reading strategies for reading comprehension the participants do not seem to recognize the value of using reading strategies to approach reading texts. This finding is consistent with the results obtained by Kazi et al. (2020) who reported a medium level of MARSII among Pakistani undergraduate students. Yet, this finding is inconsistent with other studies which tackled the issue of reading strategies awareness in ESL/EFL contexts (Anderson, 2004; Dallagi, 2021; Mokhtari & Reichard, 2004; Yüksel & Yüksel, 2012). Accordingly, the researchers concluded that participants reported a high awareness and use of metacognitive reading strategies as it was important to develop comprehension of the academic texts.

Based on the findings, participants of this study showed a predominant use of support reading strategies ($M = 3.8$) especially underlining or circling important information in the text ($SRS = 4$) and using reference materials such as dictionaries to support reading ($SRS = 5$). Mokhtari and Shoery (2002) claimed that supporting strategies are used by students whose reading abilities or level of English is not up to mark. These are functional strategies and provide the support mechanisms aimed at sustaining responses to reading. According to Yüksel and Yüksel (2012) these strategies are time consuming ones. Besides, the problem-solving strategies were revealed to be the next frequently used strategies especially re-reading to make sure I understand what I'm reading ($PRS = 4$) and guessing the meaning of unknown words or phrases ($PRS = 5$). A possible interpretation of this finding is that guessing is a frequently used strategy in EFL reading where students encounter unknown words and try to comprehend the meaning within the context from the text (Sheikh et al, 2019). However, an important issue emerging from the findings is that students were not aware of using global reading strategies. These strategies are oriented toward a global analysis of text. The two strategies of using typographical aids to pick out key information ($GRS = 4$, $M = 2.14$) and critically analyzing and evaluating the information read ($GRS = 5$, $M = 1.95$) were reported to be the least frequently used strategies in the entire inventory. This finding suggests that the participants are passive readers. Critical skills are important and helpful to university students especially when answering essay questions during their exams.

A possible explanation for the unequal frequency and use of the three types of strategies (Global, Problem-Solving, and Support Strategies) is that students do not possess sufficient knowledge about reading strategies and they were not initiated to strategic reading. They are less strategic readers who need to know how to apply reading strategies. They need to know the process involved when reading academic texts taking into consideration the pre-reading, while

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reading and post reading strategies. In a study conducted by Zhang (2001) the results revealed that less strategic readers did not realize that reading in EFL context required them to adopt different reading strategies to solve the problems they might encounter. They reported that they tackle reading tasks by chunking, detailing every linguistic element in print and they were reluctant to stop using dictionaries or translating into their mother language to understand the text. Other previous studies (Anderson, 2004; Yüksel & Yüksel, 2012) reported a high frequency use of the three types of strategies. They concluded that reading academic related materials in EFL contexts is related to many difficulties that students encounter. As a result, students resolve to apply problem-solving strategies where they activate their metacognition to know when to use, coordinate and monitor different strategies for understanding textual information. These three types of strategies (Global, Problem-Solving, and Support Strategies) interact with each other and have an important influence on text comprehension. Anderson (1991) highlighted that “strategic reading is not only a matter of knowing what strategy to use, but also the reader must know how to use a strategy successfully and orchestrate its use with other strategies. It is not sufficient to know about strategies; a reader must also be able to apply them strategically” (p. 468).

Conclusion

The present study explored Algerian EFL university students’ metacognitive awareness of reading strategies used when reading academic materials. The findings of this study lead to the conclusion that their metacognitive awareness and reading strategy use is not highly prevalent. Thus, the profile that derived from the study is that the participants are less strategic readers.

In light of the results, it seems crucial to consider strategic competence as an important component in the reading curriculum development. It is suggested that teaching EFL students how to use reading strategies should be a prime consideration in EFL classrooms. Moreover, it is highly recommended to integrate strategy based instruction into the EFL reading context. The primary goals of reading strategy instruction are to raise learners’ awareness of strategies, to help them select the appropriate strategies and to provide multiple opportunities to practice using the strategies. As it is evidenced by strategy research, less strategic readers are able to improve their skills through metacognitive strategy training. Block (1986) stated that knowledge about the process, not just the product of reading is needed if we are to move from head- scratching to designing programs which truly meet the needs of our students.

However, the results of this study may be limited to the setting where the study is conducted. It indicates that different contexts and different backgrounds of the subject may result in different findings. Therefore, further research needs to reach more extensive subjects so that the research findings can be generalized.

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