

The Implementation of Cognitive Reading Strategies in EFL Textual  
Processing among Moroccan English Department University Learners:  
An Exploratory Study

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### Abstract

Given the well-known fact that reading any EFL academic written discourse entails the proactive exertion of cognitive efforts and the constant immersion in executive control, the use of cognitive reading strategies (CRSs) occupies an outstandingly pivotal part in effectually assimilating the textual content. By implementing these strategies during the process of textual reading, readers can ensure efficient meaning-making acts. Targeting a group of first-semester university students (N=63), this exploratory study, which is part and parcel of my unpublished Doctoral Dissertation defended in 2015, has a two-fold focus. It endeavors to (a) delve into the most frequently deployed cognitive reading strategies among Moroccan EFL university learners and (b) uncover how the strategic processes are conducted among the targeted group during the act of reading. The data were gained through the assignment of two reading comprehension texts (i.e., narrative, expository) that were coupled with a retrospective questionnaire (RQ). The results showcased that the target group makes adequate use of cognitive reading strategies during textual processing. Hence, the study spells out a host of recommendations for the academic as well as the research community and sets forth some encountered limitations.

**Keywords:** Reading strategies, cognitive reading strategies, inferential processes, strategy use, textual processing

## 1. Introduction

In recognition of the premise that the comprehensibility of textual passages requires greater cognitive efforts and mental processing (e.g., Rapp & Van Den Broek, 2005), it is of paramount importance to claim that a successful approach to the textual content rests upon the use of basic reading ‘heuristics’. So long as the rationale behind synthesizing any written discourse is the obtaining of an effective understanding, the deployment of text-related strategies is a master key to unveiling the writer’s/author’s core intentions and views. It is manifest, in actuality, that the EFL learners make use of a number of strategies during text analysis and interpretation. This has been substantiated by a large corpus of previous research concerned with the identification of learners’ reading techniques (e.g., Olshavsky, 1976, 1977; Block, 1986; Davies, 1995; Mokhtari & Reichard, 2002). Yet, the procedure of profiling both the most frequently used cognitive reading strategies (CRSs) by EFL university-level learners and the strategic processes/ sub-processes involved in each cognitive strategy has not been thoroughly researched in the context of Moroccan higher education.

More significantly, the current growing explosion of research pertaining to second language reading has begun to place much emphasis on the reader’s strategies (Carrell, et al., 1989). These strategies, employed by learners in an attempt to get the sought meaning included in the printed text, were extensively researched and dealt with from a more general, broader perspective. Nonetheless, reading strategies, namely cognitive ones, are currently under-researched and are still under increasingly critical discussion among many reading specialists and theorists. In this particular sense, it is worth noting that no consensual view, to the researcher’s knowledge, has been reached and agreed upon regarding whether the use of CRSs is prototypically characterized by adequacy among Moroccan EFL university students, skilled and unskilled, for achieving an effective comprehension of diverse written texts (e.g., narrative, expository, etc.).

Therefore, forming a significant part of my unpublished Doctoral Dissertation (Defended in 2015) that tackles the effect of explicit training in cognitive and metacognitive reading strategies (RSs) on Moroccan English department university learners’ strategy usage and reading achievement, the present exploratory study, which is restricted to second language (SL)/ foreign language (FL) reading comprehension, is concerned with the deployment of CRSs during textual processing amongst learners. It manifestly attempts to bring to the surface this perceived typology of reading strategies (RSs) that are orchestrated and recruited by the Moroccan EFL university learners.

## 2. Conceptual Framework

### 2.1. Definition of Strategies

The origin of the basic concept of strategy, according to Oxford (1990), is related to the Greek term ‘strategia’ which was specifically implemented in and exclusively restricted to the military sphere. In fact, a strategy is identified as “a plan of action or policy designed to achieve a major or overall aim” (*The New Oxford Dictionary of English*, 1998, p.1837, cited in Macaro, 2006). This explicit definition succinctly reflects that a strategy, as an essential step towards the accomplishment of a certain task, is goal-oriented. It can be utilized by

learners, in varying ways, with the main objective of achieving comprehension. On this basis, many educational researchers and reading theorists tended to bring the term ‘strategy’ into the field of education to refer to the procedures and techniques that are involved not only in the process of language learning, but also within the area of textual reading.

Within this framework, the underlying claim whether strategies are intentional or automatic, as noted by Flavell, et al. (1993, p.265), constitutes a critical point of disagreement among researchers. Clearly, given that strategies can only be effective if they are used under the control of the learner, they certainly require some degree of awareness in order that the task be undertaken with greater efficiency. Actually, intentionality in the use of strategies in many cognitive tasks is agreed upon by most researchers (e.g., Bialystock, 1978; Cohen, 1998; MacIntyre, 1994; Oxford & Cohen, 1992; Hsiao & Oxford, 2002). Yet, other researchers (e.g., Barnett, 1989; Kletzien, 1991; Davies, 1995) strongly adhere to the view that strategies can be both conscious and unconscious. For them, strategies are performed by learners, while approaching cognitive tasks, in both a controlled and automatic manner. This is postulated by Davies (1995) who affirms that a strategy is a physical and mental action used consciously or unconsciously with the intention of facilitating textual comprehension and learning.

### *2.2.A Brief Overview of Reading*

It is plausible that the reading act, as a promising gateway to content comprehension, entails the dependence on mental capabilities as well as the concerted usage of strategies. Based on this succinctly stated principle, the cognitive operation of generating efficient sense of the textual input cannot be effected, nor can it be efficaciously conducted unless a holistic host of strategies, mechanisms, procedures, and processes are called upon and tapped by the learner readers throughout the thoughtful, reflective activity of reading.

Actually, reading is deemed to be one of the pivotal skills involved in language learning and meaning processing. It involves the operation of a range of cognitive mechanisms for accessing a sufficient comprehension of the text content. As claimed by Gough (1976), reading begins with an eye fixation. To illustrate, in coping with a given written text and making complete sense of it, some, if not all, readers tend to keep their eyes fixed on the words, ideas, and facts that are plainly stated and expressed by the writer/author. Viewed from this perspective, the identification of the text content involves the use of lower-level and higher-level processing techniques that are manifested in decoding each lexical item, each sentence, and each portion of the text in a separate way. This, indeed, reflects that “the reader goes directly from print to meaning” (Gough, 1976, p. 513).

As explicitly postulated by Smith (1982), reading is “purposeful, selective, anticipatory, and based on comprehension” (p.3). For clarity purposes, the process of constructing the meaning depends, to some extent, on the intentions and purposes set by the reader prior to analyzing the text content. For instance, providing accurate answers to the comprehension questions, pinpointing the writer’s/author’s intent, and recognizing the general meaning can be among the major objectives of textual reading. The other criterion that underlies the cognitive view of reading is selection. In explicit terms, in the course of reading any given text, readers intend to select the crucial ideas with a view to facilitating the operation of understanding. This shows that, to interpret the written discourse requires from readers “not to read

indiscriminately but to sample the text” (Smith, 1982, p.37). Also, readers bring relevant expectations and predictions in order to build up a comprehensive understanding of the text. These features, which characterize the reading process from a cognitive standpoint, reveal that, in dealing with written texts, learners tend to use their thinking processes and mental mechanisms so that they can make efficient sense of the content. In general terms, comprehension, as Durkin (1993) states, remains the essence of reading.

### *2.3. Cognitive Reading Strategies (CRSs)*

Cognitive strategies (CSs) are direct strategies used to orchestrate the mental processing of a target language (Gascoigne, 2008). They are made use of by the EFL learners with the primary purpose of comprehending the information more efficiently and accurately. In fact, learners implement this kind of strategies to analyze and synthesize the content of a given task (e.g., textual reading). As claimed by Rubin (1981), CSs are specific actions and steps which contribute directly to the learning process. This reveals that these strategies, bearing a cognitive nature and facilitating the process of understanding, are considered as effective steps that learners take in order to tackle the task (e.g., textual reading) under analysis in a potentially successful way. Thus, the major function of CSs is reflected in the manipulation or transformation of the target language by the learner (Oxford, 1990). In this respect, the major cognitive reading strategies, which include predicting, inferring, main ideas selection, visualizing, underlining, note taking, paraphrasing, are straightforwardly elaborated upon in the ensuing sub-sections.

#### **2.3.1. Predicting**

The cognitive strategy of predicting is basically identified as formulating many hypotheses and expectations about the underlying meaning of the text. In fact, this strategy, which assists readers in building a general overview of the written discourse, “is based on the thoughtful use of prior knowledge” (Duffy, 2009, p.101). The learner readers, in coping with the textual content, rely, to a certain extent, on what they already know in order to comprehend the presented textual information. In this respect, readers can anticipate the conceptual meaning of the text providing that they possess the proper, relevant background knowledge which constitutes the cornerstone of attaining an overall comprehension. Thus, predicting, as argued by Nuttall (1996), is both an aid to understanding and a sign of it.

On the other side, Duffy (2009) maintains that readers make predictions that are based on the purpose for reading, topic clues, and text type (p.101). For clarity purposes, when engaging in the reading process, learners are expected to orient their cognitive effort towards achieving the specific aim of having an explicit understanding of the text content. This process, in a way, requires readers to activate their schemata which play a role in enabling them to anticipate the meaning. Further, readers can depend on some lexical items that form the core of textual input in order to come up with many pertinent predictions. Of paramount and equal importance to the meaning anticipation is text genre. In fact, “knowing what type of text one is processing influences how one processes the text” (Horiba, 2000, p.228). For instance, when dealing with expository texts, learners expect that they are supposed to make sense of some particular facts and issues. By contrast, when tackling narrative or literary texts,

learners can formulate a preliminary conception that the text includes a series of events. Clearly, the reading goal, text clues, and text type are the major components that shape and guide readers' predictions and expectations regarding the target meaning of any written discourse.

All in all, predicting what is contained within the framing of the text remains an efficient reading strategy upon which readers base their actual comprehension. It is an "on the line" strategy (Moreillon, 2007, p.76) through which EFL learners can generate many reasoned guesses and hypotheses about what is included in the printed text. Indeed, this strategy, which requires that learners either confirm or refute their tentative expectations and anticipations related to the subject matter of the text, substantially assists them to construct and understand the meaning. Notably, the process of predicting, it can be stated, is mainly associated with inferring which is dealt with below.

### 2.3.2. Inferring

Inferring, as claimed by Duffy (2009), is delineated as the ability to 'read between the lines' or to get the meaning an author implies but does not state directly (p.122). Actually, the learner readers, attempting to approach the reading text from diverse perspectives, tend to infer the meaning of some concepts/words according to the context which they are used in. In this respect, inferring entails that "readers go beyond literal meaning"(Moreillon, 2007) by drawing upon their pre-existing knowledge, beliefs, and conceptualizations in an effort to efficiently interpret the written discourse. Closely similar to the strategy of predicting, meaning inferring depends, to a considerable extent, on the readers' background knowledge for achieving adequate comprehension.

Moreover, Moreillon (2007) asserts that inferring requires a great deal of sophistication (p.82). This implies that learners are expected to think critically and methodically while reading any given textual input so as to come up with a comprehensive interpretation and thorough analysis of the content. Thus, generating reasonable, valid, and logical inferences, as a cognitive strategy entailing the use of a substantial amount of thinking abilities and inferring techniques, "allows readers to make their own meanings" (Moreillon, 2007). This involves a certain kind of cognitive reasoning which can be deemed an essential element in efficiently processing and synthesizing the written text. In this particular sense, Baretta et al. (2009) claim that:

[T]he ability to draw inferences in reading comprehension is, therefore, a constructive cognitive process in which the reader strives for meaning and expands knowledge by formulating and evaluating hypotheses about the information in the text. (p.139)

In general, the use of the inferring strategy, while endeavouring to develop sense of a particular written passage, allows learners to gain fuller comprehension. It is through inferring that the learner readers can establish a framework within which they construct the meaning not only of some certain concepts, but also of the thoughts, views, and standpoints that are both implicitly and explicitly raised by the writer/author in the text. Hence, inferring

can be of paramount essentiality for understanding the textual content. This will be addressed in this case study to reveal whether inferring, as a cognitive reading strategy, is recurrently used by the EFL learners.

### **2.3.3. Main Idea Selection**

Selecting the main ideas included in a given written text is seen as another indispensable cognitive strategy for achieving comprehension efficiently. It is one of the most valuable strategies that readers can develop (Moreillon, 2007). In fact, pinpointing and concentrating on the fundamental ideas that make up the core of text content while reading enables EFL learners to understand what the writer/author tends to convey through his/her message. This strategy, it is assumed, can be fostered and frequently made use of by learners through being exposed to the process of reading a broad range of written texts.

Thus, given that the main ideas serve, at times, as the general summary of the detailed points included in the text, they essentially assist the learner readers “to develop their schemas and to shore up their ability to store and recall information”(Moreillon, 2007, p.98). In other terms, once learners identify and select the key points raised in the text, they will find it easier to activate appropriate schematic knowledge in an endeavour to build an efficient textual understanding. This reveals that the selection of the basic ideas constitutes a tremendous support for learners to comprehend and elaborate upon the intended meaning in a successful manner.

### **2.3.4. Visualizing**

Visualizing is evidently described as learning how to form pictures in one’s mind while reading (Block, et al., 2004). It is, of course, a crucial cognitive strategy that provides the learner readers with an insight into the way the events take place, especially when reading narrative texts. In effect, the strategy of imaging is also inextricably interconnected with that of predicting in the sense that readers can formulate a preliminary idea of what is included in the text. This premise is confirmed by Duffy (2009) who maintains that “imaging requires readers to use prior knowledge and to predict”(p.115). Hence, learners, in coping with and analyzing the written input, usually attempt to construct a mental image so as to facilitate and achieve the comprehension process.

As stated by Paivio (1979), “imagery contributes to reading comprehension”. Indeed, this fundamental cognitive strategy of imaging or visualizing the text content is, actually, of essential importance for the interpretation of the included meaning. To illustrate, in approaching the target text, the learner readers tend to depict the stated information, concepts, and ideas in their minds and it is via forming this mental representation that they can undertake the process of understanding the content in a substantially efficient way. Clearly, applying the strategy of visualizing during reading different texts, namely the ones that are narrative in nature, can enable readers to figure out the meaning of some words and to comprehend the ideas and views brought forth by the writer/author in the text.

Though visualizing can only be implemented by learner readers in dealing with texts that are

specifically of narrative type, it remains one of the most significant cognitive strategies that is very likely to contribute to the conduct of an effective textual processing and content analysis.

### **2.3.5. Underlining**

Underlining, which is extensively used among learners in attempting to understand texts, is “the most efficient study strategy for learning” (Blanchard, 1987, p.197). In fact, by underlining the basic concepts and key ideas, EFL learners can easily comprehend the text at hand. It is mainly implemented by learners with a view to remembering and identifying the overall content included in the text. This justifiably attests to the view, as put forth by many researchers (e.g., Anderson & Armbruster, 1984; Annis & Davis, 1978; Blanchard, 1987), that underlining, as an effective strategy, is the most ‘popular’ technique used in the act of reading. Certainly, in applying this cognitive reading strategy for the sake of attaining comprehension, learner readers can situate and define the major statements that make up the entire content of the written text.

In order to have a complete insight into the cognitive strategy of underlining, it is highly crucial to deem it as both encoding and storage mechanisms (Di Vesta & Gray, 1972). In clearer terms, viewed as an encoding mechanism, underlining involves the process of looking for and selecting the necessary words, phrases, and sentences contained in the text. In doing so, learners can reduce the vast amount of information into a short version, thereby simplifying the complexity of the comprehension process. As a storage mechanism, the underlining strategy also assists learners to store the selected ideas, conceptualizations, and views that are set forth by the writer/ author in the written text. This contributes to facilitating the way of effectively understanding and reviewing the important content. Thus, underlining the fundamental points raised in a particular text aids readers both to encode and store the generally stated meaning.

Briefly put, underlining is considered as the commonest and most frequently utilized strategy via which the learner readers can approach and study the different kinds of written discourse (e.g., narrative, expository). It occupies an essential, if not an integral, part of textual analysis, synthesis, and comprehension.

### **2.3.6. Note Taking**

Note taking is considered an effective strategy of reducing textual information into a shorter content. It is, as is the case with underlining, used by EFL readers to select the major points of the written text that should be processed in an attempt to achieve sufficient understanding. This strategy, as stated by Van Dijk and Kintsch (1983), “implies comprehension”. This reveals that it is only when learners take notes whilst they are reading an assigned written text that they can make sense of the content and reinforce their understanding more effectively. This premise is lent strong support by Robinson, et al. (2006) who confirm that when students take notes, as compared with those who do not, they generally comprehend better in that they selectively attend to the information.

Taking notes is, in fact, of essential importance in enabling readers to memorize the selected information with the primary goal of accessing the intended meaning. It basically implies activating automatic and controlled processes (Piolat et al., 2005), a fact which facilitates the operation of gaining comprehension from the studied text with remarkable efficiency and appropriateness. However, it is supposed that readers who frequently underline the textual information do not take notes during text reading and vice versa. This alludes to the premise that underlining and note taking are mainly used by the learner readers for achieving the same purpose which is the comprehension and recalling of meaningful information and some important details.

### **2.3.7. Paraphrasing**

Paraphrasing is notably defined as the process of putting the textual content into one's own terms in a clearer manner. It is "an alternative surface form in the same language expressing the same semantic content as the original form" (Madnani & Dorr, 2010, p.342). Put differently, the process of coming up with coherent, logical paraphrases of the textual content entails that the learner readers bring forth the equivalent lexical items on condition that the meaning is kept as it is without being distorted or slightly changed. In this respect, Kletzien (2009) affirms that the strategy of paraphrasing "helps students monitor their understanding and encourages them to access what they already know about the topic" (p.76). However, in rewording the major points and ideas raised in a particular written discourse, learners are highly expected to possess a wide range of lexicon so that they can construct concise, relevant, and accurate paraphrases.

It is clear that in paraphrasing the textual input, learner readers can facilitate the process of analyzing and synthesizing the basic ideas and stated views more adequately. This, in a way or another, assists readers to build an overall, if not complete, understanding that can be the outcome not only of linking their prior knowledge to what is contained in the written text, but also of having a wide repertoire of vocabulary items which constitute the backbone of any language. In brief, paraphrasing, as a cognitive reading strategy, can enhance the EFL learners' inferring abilities and techniques in that they can develop the right potential of depending on text content to attain the sought meaning (Msaddek, 2015).

All the cognitive reading strategies (predicting, inferring, main ideas selection, visualizing, underlining, note taking, and paraphrasing) elaborated upon above represent the overriding mental mechanisms and heuristic procedures that facilitate the reading comprehension act in its entirety. Therefore, the study is an endeavour to explore the extent to which Moroccan university learners invoke and put into play the above-stated reading-oriented strategies.

### **3. The Current Study**

The present study aims at exploring the cognitive reading strategies (CRSs) that are recurrently tapped and put into practice by the Moroccan EFL university learners in their endeavor to assimilate the written discourse. It also delineates the processes involved in the application of this type of reading strategies (RSs). The following research questions direct



this study toward the end goal of uncovering how the cognitive reading act is conducted by the target subjects.

- 1) Do Moroccan EFL university learners deploy cognitive reading strategies in the reading act?
- 2) What are the strategic processes resorted to by Moroccan EFL learners in cognitively strategizing the written discourse?

#### **4. Method**

##### *4.1. Participants*

Sixty-three (63) EFL university learners pursuing their studies in the English department at the Faculty of Letters and Human Sciences (FLHS) in Rabat participated in this study. They are mixed-ability learners possessing differing levels of reading potentialities and their age ranges from nineteen to twenty-three years old. However, it is worthy of mention that some of them, as an exception, are aged over twenty-three years old. This group had the same educational background insofar as the great majority of the learners received the same curriculum and studied English as a SL/FL for four years (one year at the junior high school level and three years at the high school level).

##### *4.2. Procedure*

The study under focus is both exploratory and descriptive in its core essence. In effect, adopting a quantitative approach to investigating the research objectives, the study aims at identifying the cognitive reading strategies (CRSs) that Moroccan EFL first-semester university students have recourse to in processing, analyzing, and synthesizing the written discourse. Further, it dives deeper into how the actual process of applying cognitive strategies is operated by EFL learners for constructing an effective textual comprehension. In this regard, two effectual instruments were tapped and depended upon by the researcher. They are manifested in two reading comprehension texts (e.g., narrative, expository) and a retrospective questionnaire (RQ) which incorporates a diversity of questions (i.e., open-ended questions, yes/no questions, multiple-choice questions).

As stated above, the reading comprehension texts assigned to the targeted EFL subjects are of narrative and expository type. The inclusion of these differing typologies of written discourse in the two reading texts did offer thorough insights into the learner readers' cognitive faculty in processing and analyzing the textual content. Indeed, learners make use of varying techniques in their attempt to develop effective sense of the text input (i.e. narrative, expository). The two reading comprehension texts depended upon in this study encapsulate the wh-questions task, the meaning-inferring task, the paraphrasing task, and the summary writing task. These tasks required the participating EFL learners to call upon the most sophisticated reading 'heuristics', which are cognitive in nature, in an effort to construct an effective understanding, and thus provide meaningful, accurate responses to the questions.

The retrospective questionnaire data reached in the light of the conduct of this exploratory

study were analyzed quantitatively through the Excel Software Program (Version 2007). This was meticulously effected in order to reveal the percentages and frequencies of the participants' methodical recourse to the cognitive reading strategies (CRSs) throughout the process of textual reading. Thus, the gained data relative to the frequent use of this type of reading strategies and the involved processes were calculated and numerically presented through illustrative figures and tables.

## 5. Results

### 5.1. The Learners' Usage of the Predicting Strategy in EFL Reading

After an examination of the participants' retrospective conceptualizations pertaining to reading strategy use (RSU), it can be seen that the overwhelming majority of learners made use of cognitive reading strategies (CRSs) as effective means of facilitating their understanding of the text content. In this regard, the strategy of predicting the content of the given texts (e.g., narrative, expository) was reported to be depended on by almost all the participating subjects. This is presented in the following figure.

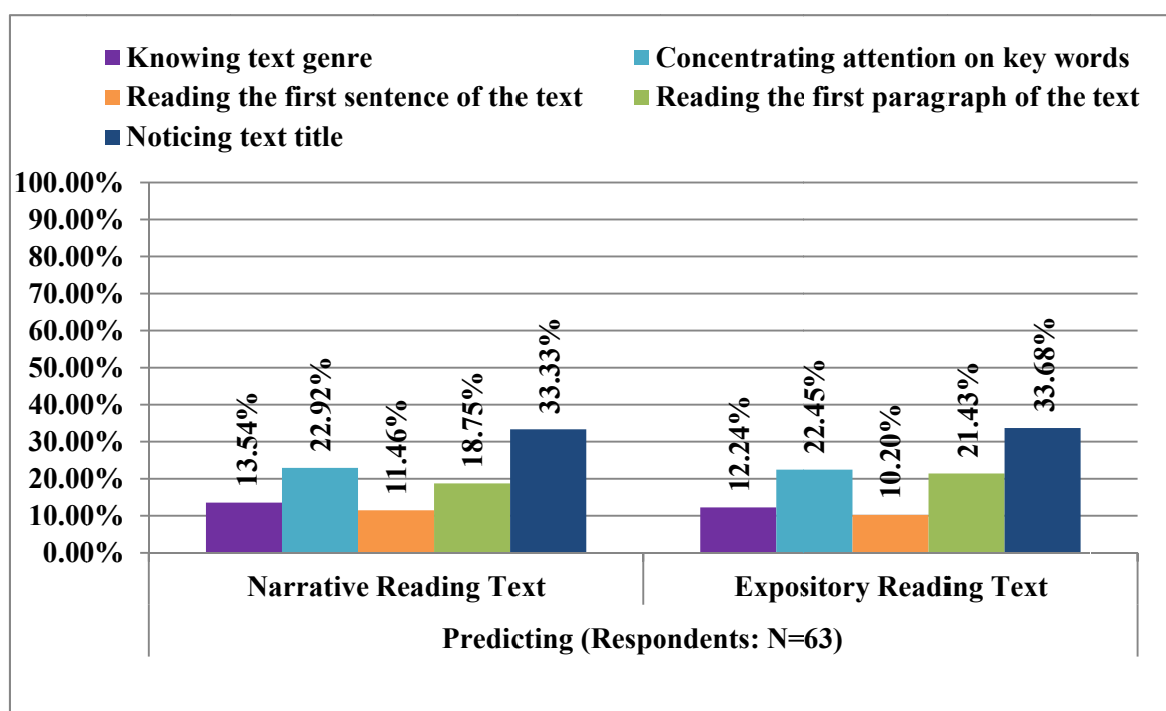


Figure 1. Use of Predictive Processes among EFL Learners

A closer analysis of the reported data reveals that the achievement of the predicting act is effected by learner readers in varying ways and at diverse levels. For instance, in reading the narrative text, 33.33% of EFL university learners relied on noticing the text title as a gateway into text's ideas and views. Another percentage of the respondents, 22.92%, stated that they focused their attention on key words in order to build up the meaning of the text. Reading the first paragraph of the text for the anticipation of the content was resorted to by 18.75% of the respondents, whereas 11.46% admitted that they built up their prediction of the text content only after reading the first sentence. Further, some of the subjects, 13.54%, claimed that they

predicted the text content via endeavoring to know the text type.

Concerning the expository reading text, EFL learners, as demonstrated in the figure above, depended on the same sub-techniques. The only tangible difference can be viewed in the processes of focusing on key words and reading the first paragraph which were used by 22.45% and 21.43% of the subjects respectively. As to knowing text genre and reading the first sentence of the text, they were employed with frequencies of 12.24% and 10.20% sequentially. Hence, the responses set forth by the target subjects in the retrospective protocol exhibit that the generation of prediction, though executed differently by the learners, is considered as a solid foundation upon which the reading act is sturdily based.

*5.2. The Learners' Usage of the Inferring Strategy in EFL Reading*

Another cognitive reading strategy, which is inferring, was reported to be implemented by all the participating students. In fact, it is unlikely that EFL learners effectively comprehend textual content without making a certain amount of inferences which are closely interrelated to their critical thinking. This uncovers the fact that textual reading is an ‘inferential’ process as it involves differing ‘heuristic’ sub-techniques which are shown in the figures presented below.

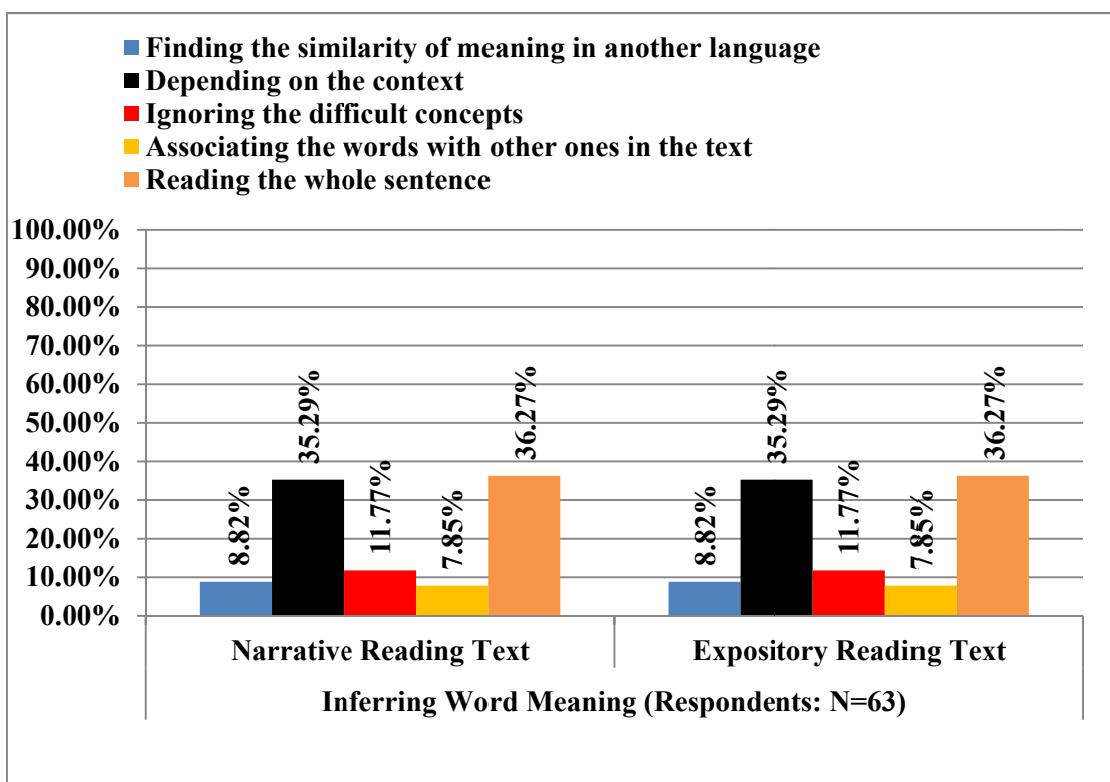


Figure 2. Use of Inferential Processes at Word Level among EFL Learners

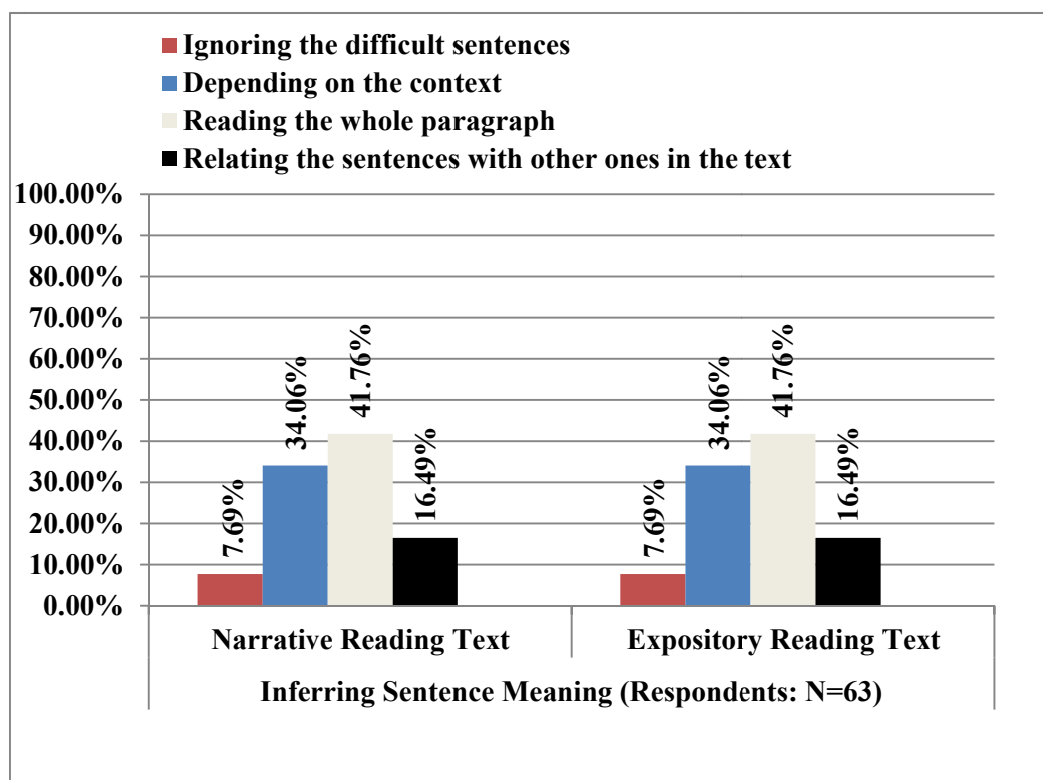


Figure 3. Use of Inferential Processes at Sentence Level among EFL Learners

The findings show that the cognitive mechanisms of context dependence and reading the whole sentence/ paragraph are the most frequently used ones among EFL learners. At the word level, most readers participating in this study, 36.27%, confirmed that, in attempting to understand the meaning of the texts’ concepts, they read the whole sentence. As regards the process of guessing the meaning of the contextualized words, it is represented by 35.29% of the respondents. Moreover, ‘finding the similarity of meaning in another language’ was made recourse to by 8.82% of the subjects. The other step, which is reflected in ‘associating words with other ones in the text’, was employed only by 7.85% of the target participants.

Likewise, at the sentence level, the meaning of the statements was inferred by EFL learners through a multiplicity of sub-techniques. Whilst 34.06% of the subjects affirmed that they depended on the context, another proportion of students, 41.76%, stated that they processed the entire paragraph so as to effectually comprehend the meaning of the included sentences. Additionally, ‘relating the sentences to other ones in the text’ and ‘ignoring the difficult statements’ are represented only by 16.49% and 7.69% of the participants respectively.

### 5.3. The Learners’ Usage of the Main Idea Selection Strategy in EFL Reading

As to the selection of the main ideas, it was performed by a great number of the participating subjects with a view to having full access to the texts’ underlying message. Obviously, the major findings regarding the use of this cognitive technique are listed in the figure below.

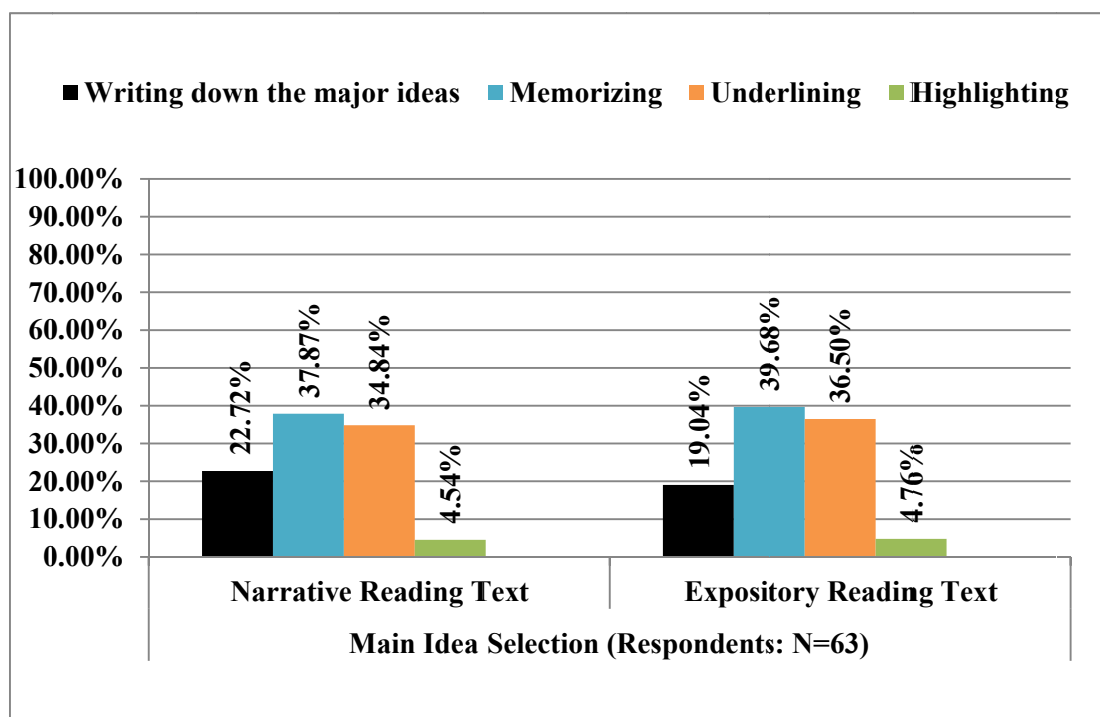


Figure 4. Frequency of the Processes used in Main Ideas Selection among EFL Learners

As the statistical data exhibit, a host of sub-techniques were utilized by the target learners to pinpoint the major statements contained in the text input. To illustrate, at the level of narrative text, 37.87% acclaimed that they tended to memorize the key sentences of the text. Other respondents, 34.84%, declared that they relied on the process of underlining the major statements that bear the core content. In addition, whilst ‘writing down the major ideas’ was used with a percentage of 22.72% of the participants, highlighting was depended upon by only 4.54% of the learners. In what concerns the expository text, many respondents, 39.68%, maintained that they had recourse to memorizing the key ideas. Writing down the text’s main points and underlining with the intent of achieving understanding were performed by the target subjects with percentages of 19.04% and 36.50% respectively. However, only 4.76% of learners reported that they resorted to highlighting in order to process the expository text content with better facility.

#### 5.4. The Learners’ Usage of the Visualizing Strategy in EFL Reading

As regards visualizing, its use among the participating subjects was primarily associated with the processing and synthesis of the assigned narrative text. Nonetheless, this state of affairs does not wholly negate the possibility of making use of this strategy while reading the expository text among a tiny number of the targeted EFL learners. This is displayed in the ensuing figure.

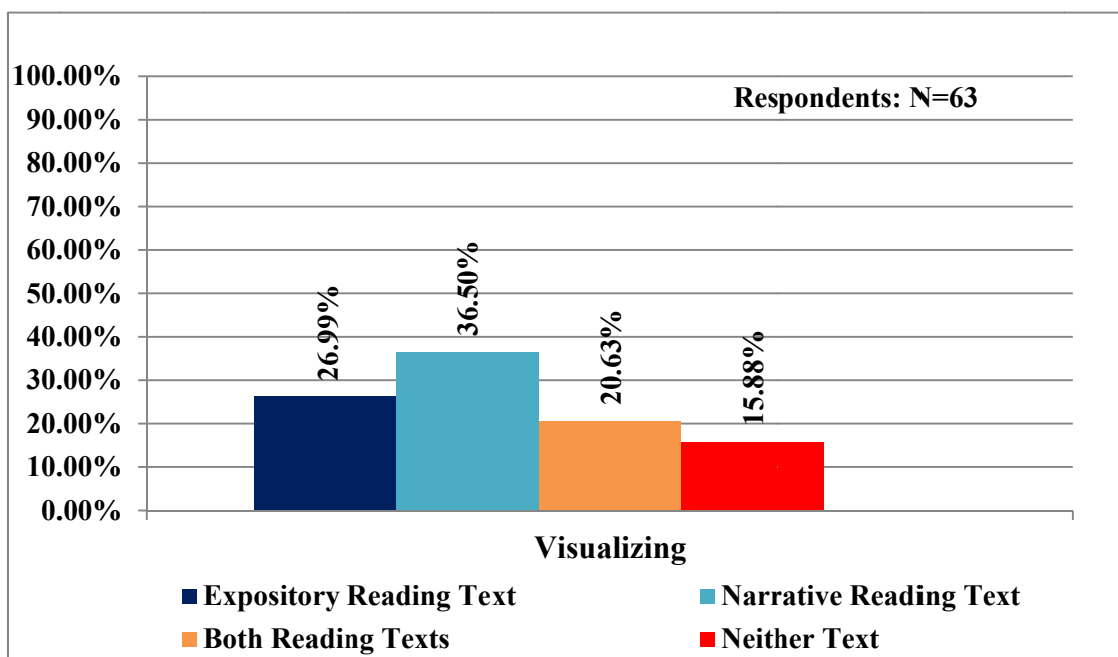


Figure 5. Dependence on the Visualizing Technique among EFL Learners

As seen in the figure above, the findings indicate that 36.50% of the subjects targeted in this study admitted that they did form mental images whilst reading the text’s narrative content. However, only 26.99% stated that they resorted to this strategy in coping with the expository text. Further, 20.63% of the respondents declared that they depended on the process of imaging the content of both texts (e.g., narrative, expository). Notably, it can be acknowledged that the strategy of visualization is more frequently used by EFL readers in processing texts of narrative kind since the latter’s content entails the building up of mental images which extensively facilitate the comprehension process.

### 5.5. The Learners’ Usage of the Underlining Strategy in EFL Reading

Concerning the strategy of underlining, it has been shown to have a facilitative role in memorizing the thematic concepts and topical statements of the assigned written texts (e.g., narrative, expository). Unlike the strategies of predicting and inferring, which were used by almost all the target learners, the process of underlining was implemented by a small percentage of the subjects. This is displayed in the figure below.

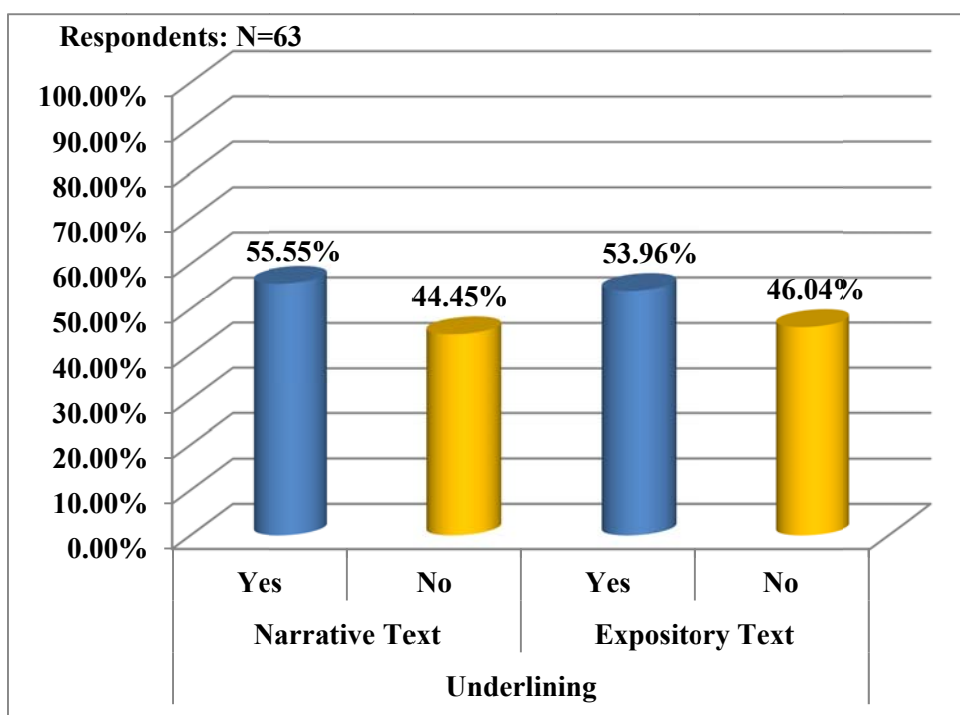


Figure 6. Use of Underlining Technique among EFL Learners

Most participants, as illustrated above, declared that they utilized this strategy with a percentage of 55.55% for the narrative text. As to the expository text, 53.96% of the subjects took the initiative to utilize this cognitive reading technique for the sake of easing and achieving the textual comprehension act. This reflects the fact that underlining the core ideas and concepts is not, at times, a widely used technique that ensures an overall comprehension of the discourse content since it was not over-utilized by the participant learners.

#### *5.6. The Learners' Usage of the Note Taking Strategy in EFL Reading*

In a similar fashion, the strategy of note taking was reported to be used by most EFL learners while reading the assigned texts (e.g., narrative, expository). This is clearly indicative of the perceived advantage of this cognitive strategic move in enabling the learners to comprehend the author's/writer's intentions and ideologies. The following figure reflects the percentage with which the strategy of taking notes while reading the narrative and expository texts was used among the target subjects.

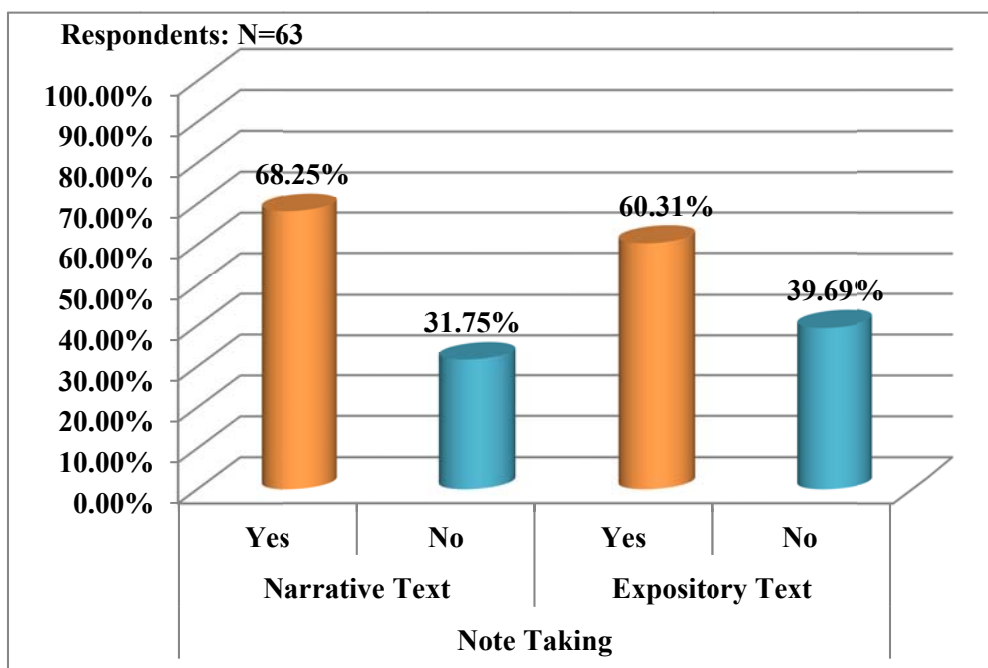


Figure 7: Use of Note Taking Technique among EFL Learners

Here, as the figure expressly reveals, only 68.25% of the respondents confirmed that they made use of note taking in coping with the narrative text. As to the expository written discourse, 60.31% depended on this strategy while attempting to construct the textual and ideational content. These presented findings corroborate the premise that the cognitive strategy of note taking can be an optimal alternative to the use of underlining. In simpler terms, learners who intended to underline the key statements/ concepts of the given texts did not take notes and vice versa.

### 5.7. The Learners' Usage of the Paraphrasing Strategy in EFL Reading

In regard to paraphrasing, it was recruited by the participating EFL learners in dissimilar ways. In effect, by rephrasing some difficult statements and ideas incorporated in both written texts (e.g., narrative, expository), learners can make the textual content more accessible and easier to digest in an effective manner. The following table summarizes the obtained data.



Table 1. Usage of the Paraphrasing Technique amongst EFL Readers

Subjects (N= 63)		Reading Comprehension Texts	
		Narrative & Expository	
Paraphrasing	N		
	%		
Translating words/sentences into Arabic (L1)	N	26	
	%	<b>41.26</b>	
Translating words/sentences into French (L2)	N	12	
	%	<b>19.04</b>	
Translating words/sentences into other languages (e.g., Spanish, German, Italian, Amazigh...)	N	1	
	%	<b>1.58</b>	
Reading the text without paraphrasing	N	22	
	%	<b>34.92</b>	
Coming up with synonymous words	N	9	
	%	<b>14.28</b>	
Relating words/sentences with other ones	N	10	
	%	<b>15.87</b>	

A closer analysis of the data plainly shows that a significant number of the target learners, with a percentage of 41.26%, tended to translate the encountered words and sentences into Arabic (L1) in an attempt to reach an adequate comprehension of the texts. Further, 34.92% of the participants engaged in the process of reading the two types of written texts without resorting to the strategic act of paraphrasing. Coming up with synonymous concepts/words in order to facilitate their understanding was recruited by the target group with a proportion of 14.28%. Additionally, whereas the dependence on the process of linking up words/sentences with other ones stated in the text was reflected with a frequency of 15.87%, translating the terms and statements into the French language (L2) was executed by the respondents with an occurrence of 19.04%. Yet, recourse to other languages (e.g., Spanish, German, Italian, Amazigh...) for attaining sufficient comprehension of the given written passages (e.g., narrative, expository) was made by the subjects in a rather limited way.

## 6. Discussion

This research study constitutes a significant part of my unpublished Doctoral Dissertation entitled ‘*Moroccan EFL Students’ Learning of Cognitive and Metacognitive Reading Strategies: Rabat FLHS Semester One Students as a Case Study*’ which was defended in 2015. Thus, the sought goal of the current study was to unearth the major cognitive reading strategies (CRSs) (i.e., predicting, inferring, main idea selection, visualizing, underlining, note taking, and paraphrasing) that are used by Moroccan English department university learners. It revealed the extent to which the targeted subjects involved themselves in cognitively strategizing the written discourse with the intent to make meaningful sense of it.

Based on the results relative to the reading strategies (RSs) that are frequently employed by the sampled EFL learners in their attempts to assimilate the content of EFL written texts, it clearly appears that the EFL learners' strategic reading behaviour is highly dependent on the CRSs. The retrospective data provided earlier reveal that the learners tend to resort to some strategies which can be grouped as cognitive (e.g., predicting, inferring, main ideas selection, visualizing, underlining, note taking, paraphrasing).

As active participants in the reading comprehension procedure, the sampled student-readers implemented a wide range of strategies along a cognitive continuum which serves a facilitative function in easing the extraction of the text meaning. Hence, the analysis of the retrospective data revealed that, in their engaging in reading the given texts, almost all the participating EFL readers did come up with predictive guesses/ predictions about the textual message. This was performed in fairly varying ways such as reading the text title, reading the first sentence, reading the first paragraph or even reading the whole text.

Further, all the participating subjects depended on the process of inferring the meaning of words and sentences. This inferential procedure was enacted by the learners through the adoption of some strategic moves to comprehend the text's inherent message. For instance, at the word level, the learners resorted to such processes as 'finding the similarity of meaning in another language', 'guessing the meaning from context' and 'reading the whole sentence'. However, at the sentence level, the processes that were of great significance in enabling the EFL learners to understand the meaning concerned 'context reliance', 'relating the sentences to other ones stated in the text' and 'reading the whole paragraph'. In fact, all the participants made use of the inferring strategy while processing the text content. This is suggestive of the fact that, it is not enough to state that inferring is part and parcel of the readers' strategic repertoire, but it is necessary to claim that the construction of what the author/writer intends to convey is heavily dependent on the readers' inferential abilities that aid in the comprehension process. Thus, as claimed by many researchers (e.g., Moreillon, 2007; Baretta et al., 2009), the achievement of text understanding is closely interrelated with the extent to which the readers can draw accurate inferences from the core content of the texts.

With reference to the selection of the main ideas of the printed texts, it was manifestly observed that this strategic technique was deployed by a large category of the participating EFL readers. In effect, regardless of the text type (i.e., narrative, expository), pinpointing the essential statements contained in the written texts was effected by the targeted subjects in starkly differing ways. This unveils that the process of selecting the fundamental ideas can be, at times, an 'automatic' one since most EFL readers addressed in the study had recourse to it without exerting any 'self-controlled' cognitive effort (Msaddek, 2020). The targeted subjects reflected a heavy dependency on the major steps of memorizing, highlighting, and writing down and underlining the key ideas of the texts which constitute a large part of the selection process in facilitating textual comprehension.

As concerns the strategy of visualizing, it is true to admit that this cognitive strategy is genre-specific, for though some of the subjects reported making use of this strategy while

processing the assigned expository text, the majority increasingly relied on this technique for the central purpose of aiding the comprehension act and making adequate sense of the narrative written text. This alludes to the basic premise that engaging in reading about the eventualities, characters' life experiences, biographical accounts and the like highly entails the use of the visualizing technique which enables the student-readers to form a cognitive 'mental representation' of what is stated within the confines of the narrative text. Generally, it can be deduced that being characterized by the 'genre- sensitivity', visualizing allows EFL learners to process the included narrative input with greater facility.

As for the cognitive strategy of underlining, the subjects reported frequent use of the strategy in their analysis of the given texts' content. This evinces that this strategy, which can be effected, at times, automatically, can allow the EFL student-readers to recall the concepts and sentences that are of paramount significance to the construction of the text meaning. It is deducible, in fact, that when EFL learners underline the included words/sentences, they tend to spare themselves the task of 'reskimming' and 'rescanning' the whole text after finishing their reading. This enables learners to pay 'centralized' attention to the statements that make up the core content, and thus achieving the intended comprehension accordingly.

Moreover, the RQ data reported the use of a closely related technique which is note taking by a large proportion of the participant EFL student-readers. Indeed, taking notes of some particular statements and ideologies set forth by the writer/author can assist EFL learners to strengthen their overall mastery of the written discourse content. Nonetheless, it is worth claiming that what was underlined by the subjects during text reading was not taken note of and vice versa. This indicates that underlining and note taking, which have the function of memorizing the core content, can be interchangeably used by the EFL learners. They occupy an essential role in contributing to the building of the text meaning.

As regards paraphrasing, the target subjects significantly depended on it for synthesizing the target written texts. Put simply, the majority of the sampled EFL learners did resort to paraphrasing while attempting to reach a mastery of the narrative and expository texts' content. This reveals that this strategic step can assist the target learners to interpret and apprehend the message that the author/writer intends to convey via the text. However, despite the fact that the targeted student-readers were supposed to provide crystal clear paraphrases of the given statements included in the two reading texts, they did have greater difficulty in rephrasing the assigned sentences of the expository reading test. In other words, due to a shortage of vocabulary items, a number of the sampled subjects provided erroneous paraphrases as concerns the statements of the expository written text. This, once again, attests to the view that paraphrasing is performed by the learner readers slightly better in the narrative than the expository EFL text since the latter type requires more frequent use of paraphrasing skills that are deemed as stepping stones towards the achievement of sufficient understanding.

Of crucial importance is how the learners engaged in the process of paraphrasing the text content. This procedural step was taken by the EFL learners in a wide variety of ways. Some

subjects resorted to the translation of the words/sentences into Arabic (L1) as a facilitative method to obtain the included meaning. Others showcased heavy dependency on the technique of linking the words/sentences to the subsequent ones or coming up with synonymous words. Further, translating the text words/sentences into French (L2) was also implemented by a small category of the participating learners with attempts to construct an efficient comprehension. These reported facts uncover the cognitively interactive nature of languages as far as the paraphrasing process is concerned. Shifting from one language to another, though not on a continuous basis while reading a given written discourse, can facilitate the assimilation of the message. However, it can be articulated that, in the course of paraphrasing the text content, the achievement of understanding can come to fruition only if learners come up with accurate words that closely correspond to the core meaning of the stated sentences. This implies a sophisticated language competency which is a guarantee of the conduct of paraphrasing.

According to what has been stated thus far, it can be deduced that EFL learners make effective use of cognitive reading strategies (CRSs) when approaching the textual content. This is in concordance with the findings reported by some prior scholars and researchers (e.g., Suyitno, 2017; Tabataba'ian & Zabihi, 2011) who claim that the EFL learners frequently use CRSs while being exposed to academic written texts. This evinces that, by heavily depending on the CRSs, most learners focus their attention and mental efforts on gaining an overall comprehension and engaging in the process of ensuring their mastery of what is contained in the printed text. In particular, the generation of predictions related to the text message, inferring the meaning of key concepts, selecting the prime ideas, and visualizing seem to constitute the repeatedly implemented mechanisms almost all participant learners reported to use throughout the reading process. Further, underlining some key terms/sentences, taking notes, and paraphrasing were also declared to be recruited by the participant learners in an effort to explore the meaning of the text. This is suggestive that the process of strategizing the textual content is conducted in a cognitively-oriented manner by EFL learners.

## **7. Conclusion**

The current study revealed that, in coping with EFL textual content, many reading strategies (RSs) that are of cognitive nature, were executed by the target EFL learners. This is indicative of the premise that attempts at making cognitive progress while processing the written texts are frequently made by EFL readers. More explicitly, the obtained retrospective data showcased that the Moroccan EFL learners' reading behavior reflects a certain orientation towards the recruitment of cognitive reading strategies (CRSs) (e.g., predicting, inferring, main ideas selection, visualizing, underlining, note taking, paraphrasing).

The sampled EFL learners' cognitive reading strategy use (CRSU) consists, in some respects, in sufficiency. As indicated previously, the majority of learners targeted in this study had recourse to a broad range of cognitive 'heuristics'. They tended to build their predictions of the meaning inherent in the text by virtue of many sub-processes (e.g., reading the title, reading the first sentence/paragraph). Further, the meaning-inferring process was conducted

by almost all the student participants in their attempts to interpret the concepts/statements of textual input. Similarly, the selection of main ideas incorporated in the assigned written texts was executed more frequently among the targeted learners. With regard to visualizing, it was implemented by the learners more consistently, namely in handling the narrative text. Moreover, occurrences of note taking and underlining were starkly evident in the learners' endeavor to comprehend the text content. With reference to paraphrasing, it can be acclaimed that the dependence on Arabic (L1) in translating some difficult terminologies was an undeniable fact. Nonetheless, tending to paraphrase the sentences included in the written texts (i.e., narrative, expository), the EFL learners under focus reflected some measure of failure in coming up with synonymous terms.

In essence, increased dependency on CRSs does prototypically characterize the EFL learners' reading approach to working out the meaning of any text. This indicates that since learners utilize CRSs in an adequate manner, they should be instructed in metacognitive reading strategies such as setting the reading objectives, activating background knowledge, monitoring and questioning their comprehension progress, rereading the textual input, and evaluating their understanding of the text content. This postulate leads to the statement that most cognitive strategic steps taken by the target learners in extracting the textual meaning did not require a greater amount of self-regulation which is the basic condition of accomplishing competent, skilled reading. It is also recommended that the academic practitioners select a broad array of narrative and expository texts and assign them to the learners. Indeed, the critical analysis and reasoned synthesis of these types of written discourse can maximize the university learners' reading potential and assist them to engage more substantially in the act of text processing.

Despite the intriguing insights and the rich findings reached in the light of the systemic conduct of the present study, some limitations can be spelled out. One limitation is bound up with generalizability insofar as this study exclusively targeted the students belonging to the Faculty of Letters and Human Sciences (FLHS) in Rabat. Thus, future research studies should address students studying in other Moroccan higher education institutions for guaranteeing utter representativeness. The other limitation is associated with the data collection instruments used for undertaking this exploratory study. Hence, in addition to the use of the retrospective questionnaire (RQ), other data elicitation techniques such as the interview, the think-aloud, and the self-report can be implemented for ensuring thorough investigation of the research issue under critical scrutiny.

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## Notes

Note 1. This small-scale study is part and parcel of my unpublished Doctoral Dissertation defended in 2015. The Doctoral Thesis showcases the effect of explicit training in cognitive and metacognitive reading strategies on Moroccan English department university learners' strategy usage and reading achievement gains.

Note 2. My Doctoral Thesis Title: *Moroccan EFL Students' Learning of Cognitive and Metacognitive Reading Strategies: Rabat FLHS Semester One Students as a Case Study*

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