

The Impact of Metacognitive Strategy Training on Comprehension Monitoring among Moroccan EFL University Learners

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Abstract

This experimental study is intended to uncover how the meaning-checking procedure is conducted by Moroccan English as a foreign language (EFL) learners and explore the perceived impact of metacognitive strategy instruction on the way they monitor their comprehension act in textual processing. Predicated on a pre-post-test design, the study is a manifestation of the extent to which the learners' monitoring behaviour during the reading process can be subject to utter improvement through the conduct of an instructional intervention. To investigate this issue at length and provide plausible, pertinent evidence, a sample of 113 of Moroccan first-semester students majoring in English Studies were targeted. The data were elicited through the usage of such research instruments as reading comprehension texts (i.e., narrative, expository), 'self-report questionnaire' and reading comprehension tests (i.e., pre-test, post-test). The findings evinced that, owing to strategy instruction, the comprehension-checking behavior among the experimental group (n=63) significantly improved at post-test compared to the control group (n=50). Finally, some practical implications are brought forward and a few limitations confronting the study under focus are cited.

Keywords: *comprehension monitoring, metacognition, strategic behavior, strategy instruction*

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1. Introduction

Given the cognitive nature of the reading act and the strategic processes that it entails for adequate comprehension attainment, it is a requirement that learners track and monitor their progress during text reading. This can be achieved by learners through engaging in self-regulation and exercising a certain kind of metacognitive control that can assure the overall assimilation of textual input. Under this account, Schmitt & Newby (1986) admit that monitoring, is “a crucial component of metacognition” (p.30). This reveals that comprehension monitoring and metacognitive thinking, as two interrelated components, play a pivotal role in facilitating textual analysis and meaning synthesis. In essence, the use of monitoring, along with other text-based strategies (i.e., predicting, background knowledge activation, inferring), constitutes an essential element that significantly assists learners to tackle the reading task with greater effectiveness and efficiency. Hence, the usage of this ‘self-regulatory’ strategy in attempting to approach academic written discourse is prerequisite to achieving better comprehension.

More significantly, conducting an assigned reading task without monitoring the extent of the progress that is taking place will not assist learners to attain an efficient understanding of the included content of the text. This denotes that the process of observing one’s understanding, as Wagoner (1983) claims, is very “essential for competent reading” (p.328) as it allows learners to focus their concentrated attention on getting the overall meaning inherent in the text and enables them to self-monitor their cognitive attempts at making sense of the author’s/writer’s implied intentions and posited views. This stated premise evinces that learners’ cognitive engagement in self-monitoring and self-questioning to proceed through the written text is associated with achievement (Ley & Young, 2001).

However, monitoring strategies, as Brezin (1980) maintain, are frequently implemented by skilled/ experienced learners. This reflects that effective monitoring cannot be implemented by ‘unskilled’ and ‘inexperienced’ learners, unless they are provided with adequate training in how to apply them in many reading situations (Allen & Hancock, 2008). Actually, though most skilled EFL learners tap basic reading strategies (i.e., predicting, inferring, paraphrasing) during textual processing, the overall quality of their monitoring behavior can be subject to further improvement. As to unskilled EFL learners, their monitoring act and metacognitive control remain starkly ineffective. This is supported by many researchers (e.g., Block, 1992; Yoshida, 2012) who posit that second language (L2) readers find more difficulties in textual processing and comprehension than first language (L1) readers. Thus, the use of monitoring tactics for ensuring an efficacy-based understanding of EFL texts is lacking among EFL learners, especially at the first-semester level.

In addition, most academic research conducted in EFL reading has been geared towards the investigation of reading from a schema-theoretic perspective (e.g., Johnson, 1982; Carrell, 1984) or the exploration of reading techniques/ models that are utilized by readers in the act of text processing (e.g., Grabe, 1991; Grabe & Stoller, 2002). Other research studies probed into metacognitive awareness of reading strategies (Mokhtari, & Sheory, 2002; Iwai, 2016) and the correlation between reading proficiency and comprehension monitoring (Khonamri & Kojidi, 2011). Nonetheless, Block (1992) claimed that most research on comprehension monitoring has been done with native English speakers and not with L2 readers. In fact, the process of

addressing comprehension monitoring, especially in L2 reading research, has been neglected and given insufficient attention (Cassanave, 1988; Block, 1992). Thus, this study is intended to bridge this research gap by focusing on the monitoring strategies used by Moroccan EFL learners and by delivering a sort of strategy instruction that can qualify learners as 'active agents' dealing with academic written texts for the attainment of an effective understanding by means of metacognitive monitoring. This will be tackled in the current study through the conduct of a semester-long metacognitive strategy intervention.

2. Theoretical Framework

2.1. Metacognition

As an efficacy-oriented process of reflective reasoning and thinking, metacognition is construed as the learner's capability to think and reflect critically while coping with cognitive tasks (i.e., reading, writing). It assists learners to regulate and control their thinking processes with the primary purpose of achieving successful performance in any academic field. According to Flavell (1981), the concept encompasses three requisite components which are metacognitive knowledge, metacognitive experience and strategy use. The first core component, metacognitive knowledge, is related to the learners' knowledge about cognition. This knowledge is divided into three basic elements which are the person, the task and the strategy variables. To elaborate on this, the person variable, as an essential element, refers to the learners' overall knowledge about their mental capabilities and skills. It is a certain kind of 'self-knowledge' which "is relatively stable, storable, fallible and late-developing" (Brown, 1981). As to the task variable, it is concerned with the nature of the assigned task, i.e., learners are expected to be acutely aware of the easiness/ difficulty of any cognitive undertaking. Concerning the strategy variable, it is primarily associated with the usage of strategies in tackling cognitive tasks.

With regard to the second component, it pertains to metacognitive experience. It is plainly reflected in the conscious thoughts and ideas about any cognitive endeavour, effort or activity. As noted by Flavell (1979), metacognitive experiences "are items of metacognitive knowledge that have entered consciousness". In simpler terms, metacognitive knowledge can be considered as the cornerstone for the development of metacognitive experience, for when the learners do not succeed to attain the overall comprehension of the written text or are slightly confused about its content, they can have recourse to the metacognitive experience with the main purpose of remedying their comprehension failure. Indeed, there is an active interaction between metacognitive knowledge and metacognitive experience.

In what concerns the third component, strategy use, "it implies a process involving careful and deliberate selection of strategies to accomplish a set purpose" (Wade et al., 1990). To put it succinctly, strategy use is basically related to the actual utilization of strategies which can assist EFL learners to perform the learning or reading task under study in an effective way. These three cited components are completely dependent on one another as they form the core fundamentals of metacognition.

2.2. Comprehension Monitoring in EFL Reading

Comprehension monitoring is referred to as "the ongoing activity of evaluating and regulating one's understanding of written (or spoken) text" (Baker & Brown, 1984a, 1984b). Actually, to make complete sense of the printed text, learners are highly supposed to be aware that they are proceeding in the right path while reading, i.e. they can engage themselves in a

certain kind of self-questioning and reasoned reflection whenever they encounter some unclear ideas and difficult concepts stated in the text. This corroborates the fact that comprehension monitoring plays a seemingly crucial role in assisting the learners to direct their cognitive efforts and metacognitive capabilities with the key objective of fully assimilating the content.

For Casanave (1988), comprehension monitoring includes behaviours which enable learners to know whether the process of comprehension is taking place. These strategic behaviours are manifested in “the ability to evaluate one’s current level of understanding, to plan how to remedy a comprehension problem and to regulate comprehension and fix-up strategies” (Paris & Myers, 1981). In explicit terms, in trying to digest the textual meaning, learners depend on relating what they already know to the text content as a promising strategy to advance their understanding. They also attempt to question the writer’s/author’s views in a critical manner and monitor their progress in understanding.

Thus, it is deducible that comprehension monitoring is really a requisite procedure that allows learners to proceed so effectively and successfully in their reading of written materials. In effect, it is through checking one’s understanding, while being engaged in reading a particular text, that one can reach the intended meaning. This can be achieved by EFL learners by regularly questioning and explaining the core concepts, ideas and viewpoints presented in the text. In succinct terms, possessing a certain amount of metacognitive knowledge and metacognitive experience and acquiring the ability of monitoring comprehension enable learners to unveil the textual content in an increasingly efficient way. This evinces that undertaking a sophisticated kind of ‘metacognitive reading’ by critically analyzing and processing the input of the text is a crucial footstep towards achieving deeper understanding. Given this, the study under investigation tends to equip the sampled EFL learners with an instruction in metacognitive monitoring to better enhance their reading act.

2.3. Major Studies on Comprehension Monitoring Training

A number of studies dealing with comprehension monitoring instruction and textual analysis, as two inextricably connected and interdependent variables, have been conducted by some reading researchers. For instance, André & Anderson (1978-79) undertook an experimental treatment in which they provided high school students with adequate training in self-questioning as a crucial metacognitive monitoring strategy. The subjects were instructed in identifying the main points raised in the text and generating questions about them. The results evinced that the training benefited the subjects more substantially and substantively as they developed the basic potential to question and comprehend the content of the written discourse. This training, in effect, revealed that self-questioning, as a vehicle of monitoring understanding, is of great importance to the construction of text meaning since it enables learners to critique and grasp what is stated by the author/writer.

Singer & Donlan (1982) provided American eleventh grade students with training in building schemata for short narrative texts and generating questions pertaining to the constructed schema. The subjects were divided into an experimental and a control group. The first group (the experimental one) was assigned a wide range of short stories and was instructed in activating their schemata about some basic story elements (e.g., the leading character, characters’ goals, events), whereas the second group (the control one) received no instruction. Further, the

experimental group was taught how to come up with questions that are interrelated with the activated schema with a view to understanding the content. This was intensively practiced and applied to some narrative texts. The findings revealed that the experimental group reflected greater improvement at the level of content comprehension than the other group.

Bereiter & Bird (1985), one of the pioneering training studies, was conducted in an effort to instruct seventh and eighth grade average readers in the use of comprehension monitoring during textual reading. The subjects, made up of eighty students, were divided into three experimental groups and one control group. The first two experimental groups were exposed to the processes of identifying comprehension obstacles and selecting “repair strategies” to remedy comprehension failure. These mentioned processes were extensively explained and repeatedly modeled by the teacher. As to the third experimental group, it did not receive any modeling and explanation pertaining to strategy use, and was only encouraged to practice the strategies. The findings revealed, via the post-test, that the experimental groups, which were trained by means of modeling and explanations, outperformed both the third experimental group and the control group.

Kern (1989) conducted a study in which intermediate French students, as L2 readers, were directly instructed in reading comprehension and meaning inferring. Fifty-three subjects took part in this study. The treatment group consisted of twenty-six students and the control group was twenty-seven. They were both assigned a pre-test prior to the strategy training process. Then, the treatment subjects were instructed in word analysis (e.g., cognates, prefixes, suffixes, orthographic cues), sentence analysis (e.g., cohesive devices, sentence cohesion), discourse analysis (e.g., inferring meaning from context, forming hypotheses, questioning) and reading for specific purposes (e.g., skimming for the main idea, scanning for a specific detail). The findings of the post-test showed that the experimental group considerably improved in terms of text comprehension and meaning inferring. This improvement was manifested at the level of word, sentence and discourse analysis.

Boumann, Seifert-Kessell, & Jones (1992) undertook a three-week intervention with fourth-grade students in order to evince the role of comprehension monitoring instruction in text reading. The subjects (n=60) were randomly categorized into three experimental groups: (a) a Think-aloud (TA) group, (b) a Direct Reading-Thinking Activity (DRTA) group and (c) a Direct Reading Activity (DRA) group. The first group was instructed in comprehension monitoring techniques (i.e., self-questioning, predicting, retelling, rereading). As to the second group, it was exposed to a ‘predict-verify’ strategy while reading stories. The third group was initiated by the instructor into a ‘non-interactive’, ‘guided’ reading of stories. Along the pre-post-test continuum, the findings evidenced that, though awareness of comprehension checking strategies improved among the (TA) and (DRTA) groups, the subjects in (TA) group reflected remarkable increase in their abilities to inspect their understanding of the target content. This shows that monitoring strategy instruction plays a role in monitoring strategy awareness which, in turn, results in an enhanced reading process.

Huff & Nietfield (2009) conducted a two-week intervention to reveal the effect of instructing learners in both comprehension monitoring and accuracy in monitoring. The instruction targeted two groups (n=21, n=24) representing the treatment condition and other two

groups (n=47, n=26) serving the control condition. The first treatment group (n=21) was exposed to comprehension monitoring training and the second treatment group (n=24) was instructed in comprehension inspection and monitoring accuracy. The findings illustrated that both treatment classes reflected an improved level in comprehension monitoring. Further, the second treatment class showed stark improvements in monitoring accuracy. This is relatable to one of the objectives underlying the present study in trying to unveil whether learners' comprehension monitoring during reading can be enhanced through strategy instruction.

3. Research Objectives & Research Questions

The present experimental study has a two-fold goal. It reveals how the comprehension monitoring process is conducted among Moroccan EFL university learners. As a second purpose, the study seeks to uncover the impact of strategy instruction on EFL university students' comprehension monitoring strategies during textual reading. For achieving these objectives, a corpus of research tools was tapped by the researcher in an attempt to collect the necessary quantitative and qualitative data. These research-oriented instruments incorporate the reading comprehension texts, 'self-report questionnaire' and reading pre- and post-tests (i.e., narrative, expository). Hence, the following two research questions serve as a signpost for addressing the topical issue under investigation.

- a- How is the process of comprehension monitoring performed by Moroccan EFL university students in the analysis of reading texts?
- b- To what extent does explicit metacognitive strategy instruction improve the Moroccan EFL university students' comprehension monitoring?
- c-

4. Method

4.1. Participants

A total of one hundred and thirteen Moroccan EFL university students participated in the current case study. All of them belong to the English department at the Faculty of Letters and Human Sciences, Mohammed V- Agdal in Rabat. The target subjects are in the first-semester level and they have the same educational background. The two groups were randomly selected by the researcher and each group includes mixed-ability learners. One group (n=63) served as the experimental group, whereas the other group (n=50) was assigned to the control condition. According to the reading pre-test scores, it is evident that both in the treatment and the control group, there are students of advanced and intermediate level. This can serve as a platform for delving into the conduct of comprehension monitoring among learners in a more plausible manner. The subjects belonging to these two groups (i.e., control, experimental) are not repeaters.

4.2. Procedure

The current study adopts a pre-post-test design which involves the assignment of the reading pre- and post-tests to both treatment and control groups. The treatment group (n=63) received thorough, systematic instruction in metacognitive monitoring pertaining to textual reading and meaning construction for a semester-long period (Fall Term/ 2012). The subjects of the group were exposed to some monitoring procedures such as checking their comprehension while reading, engaging in progress monitoring, applying 'fix-up' strategies in the case of comprehension breakdowns, rereading and self-questioning. These were reinforced through the

provision of a range of written discourse (i.e., narrative, expository). The control group (n=50), taught in reading comprehension, was not provided with any training in comprehension monitoring/ metacognition. At the conclusion of the intervention, both groups (control & experimental) were post-tested and assigned the ‘self-report questionnaire’.

The designed reading comprehension tests (i.e., pre-test, post-test) were comprised of four basic reading tasks (wh-questions, meaning-infering, paraphrasing, summarizing) that require critical thinking, metacognitive control and effective monitoring. Each group was administered a reading test (i.e., narrative, expository) and a questionnaire at both pre-testing and post-testing stages. Therefore, the administration of the reading test and the ‘self-report questionnaire’ to the participants belonging to the two groups (control & treatment) under focus extended to a two-hour period which could be explicitly judged sufficient.

Serving as an effective instrument of obtaining knowledge about how the comprehension monitoring act is performed by EFL learners in constructing the meaning inherent in the text, the ‘self-report questionnaire’ was implemented. The prime rationale behind evading the ‘think-aloud technique’ is that it breaks up the continuity of the reading process (Bereiter & Bird, 1985). In fact, unlike the ‘think-aloud protocol’, which requires learners to report on their strategic moves while analysing the written discourse simultaneously, the ‘self-report questionnaire’ can be completed shortly after the performance of the reading process. In this way, the subjects can engage in both reflective thinking and ‘meta-reasoning’ about their conducted reading, and thus report their monitoring and analytical skills by means of which they have attained text comprehension.

The data reported in the ‘self-report questionnaire’ were computed through the Excel software Program (version 2007) to reflect the frequency of strategies used among the target groups during the comprehension-checking procedure. This was applied at the pre-test and post-test stages for both control and experimental groups with the objective of pinpointing any major advance at the level of strategic monitoring behaviour. The monitoring comprehension processes reported by the sampled learners were numerically counted in percentile forms and turned into illustrative figures. This gives an overall perspective on the participating EFL readers’ pre-treatment as well as post-treatment status as to comprehension monitoring, especially among the experimental group which was exposed to the instructional intervention.

5. Findings

5.1. EFL Learners’ Comprehension monitoring during Textual Reading

Building on the views gained through the ‘self-report questionnaire’, it can be submitted that the target EFL subjects of both groups reported using some sub-processes to check their ongoing comprehension of the assigned narrative and expository texts. The findings revealing how the self-monitoring process is undertaken among EFL learners are presented in Table 1.

Table 1. EFL learners’ self-monitoring during text processing

Subjects (N=113) Self-monitoring	Control Group (N=50)	Experimental Group (N=63)
		Narrative & Expository Texts

Guessing the Meaning from Context	N	36	34
	%	39.56	29.05
Rereading Previous Sentences	N	12	16
	%	13.19	13.68
Rereading Previous Paragraphs	N	2	12
	%	2.20	10.25
Ignoring Difficult Words/Sentences	N	3	5
	%	3.30	4.28
Stopping Reading to Check Comprehension	N	14	15
	%	15.38	12.82
Slow Reading	N	24	35
	%	26.37	29.92

Confronting some difficult words/sentences while reading texts (e.g., narrative, expository, learners employ some sub-processes (i.e., guessing the meaning from context and slow reading) more frequently. The first sub-technique was used with a percentage of 39.56% for the control group and 29.05% for the experimental group. The second sub-technique pertaining to comprehension monitoring, which is slow reading, was utilized by the control group with a frequency of 26.37% and by the experimental group with 29.92% of frequent use. Further, stopping the reading process for a while to remediate their comprehension failure and rereading the texts' sentences are the basic strategic moves deployed by the subjects with percentages of 15.38% and 13.19% for the control group and 12.82% and 13.68% for the experimental group respectively. Also, rereading the previous paragraphs to comprehend the meaning of words/statements was used with percentages of 10.25% and 2.20% for the experimental and control groups sequentially. However, it can be declared that only a tiny minority of the subjects of both groups admitted ignoring the abstruse words and difficult sentences whilst reading the assigned written texts (e.g., narrative, expository).

Further, based on the insights reported by the participating EFL learners in the 'self-report questionnaire', it was observed that the metacognitive strategic technique of coming up with some 'directive' and 'self-regulated' questions relative to the included input throughout the course of text processing was starkly lacking among the sampled EFL learners. This is showcased in Figure 1.

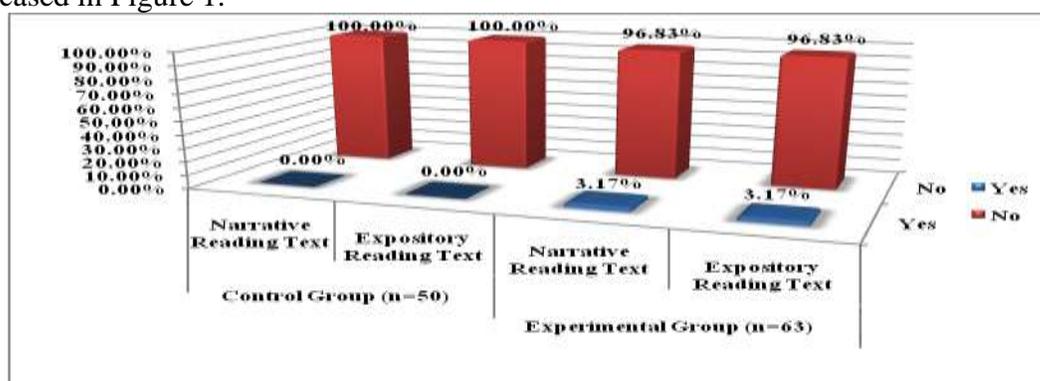


Figure 1. EFL learners' self-questioning during reading the written discourse

As Figure 1 expressly shows, it can be said that, whereas none of the subjects in the control group claimed that they engaged themselves in the process of self-questioning about the textual content, only 3.17% of EFL student-readers belonging to the experimental group confirmed using this strategy in their reading of the narrative and expository written texts. This is, again, a clear manifestation that the strategy of self-questioning, which is part and parcel of comprehension monitoring, is not frequently used by first-semester EFL learners since it entails, as assumed, the exertion of a large amount of mental efforts and cognitive capacities.

As regards text rereading, which constitutes a significant part of the comprehension monitoring procedure during textual analysis and synthesis, it is apparent that the greater proportion of the control as well as treatment subjects did not have recourse to this strategy in an attempt to track an overall comprehension of the assigned texts' content. The frequency of text reprocessing among targeted EFL learners is shown in Figure 2.

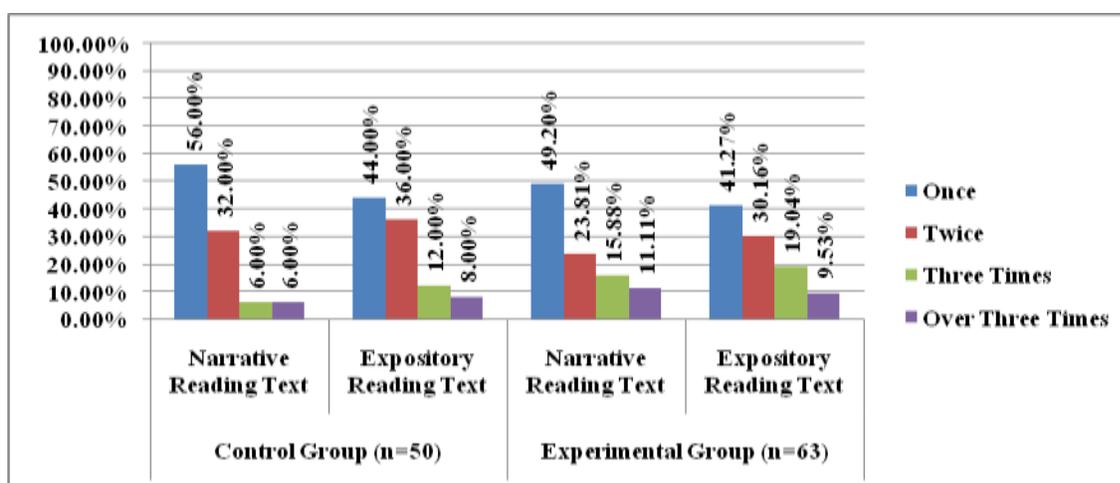


Figure 2. Text rereading technique among EFL learner readers

As conspicuously manifested in Figure 2, most EFL learners in the control group tended to read the presented texts only once with percentages of 56% and 44% for the narrative and expository written discourse respectively. Further, whereas 32% of the controls declared that they read the narrative text twice, 36% of the same group read the expository text for the second time as well. In a similar fashion, a great number of the experimental subjects did not engage in reprocessing the target written texts. Respectively, 49.20% and 41.27% of this group read the assigned narrative and expository texts only once. Reading for the second time was performed by 23.81% and 30.16% of the participants belonging to the experiment group for the narrative and expository written texts sequentially. Nevertheless, only a small number of student readers of both groups did manage to read the given texts three or more times for achieving an effectual comprehension.

5.2. Impact of Strategy Instruction on EFL Learners' Comprehension Monitoring

In striking a comparison between the pre- and post-test stage, it is evident that the control group did not depend upon sufficient strategy use in keeping track of an effective and smooth comprehension of the assigned written passages (narrative and expository). The findings relevant to the process of comprehension inspection among the comparison group are set forth in Figure 3.

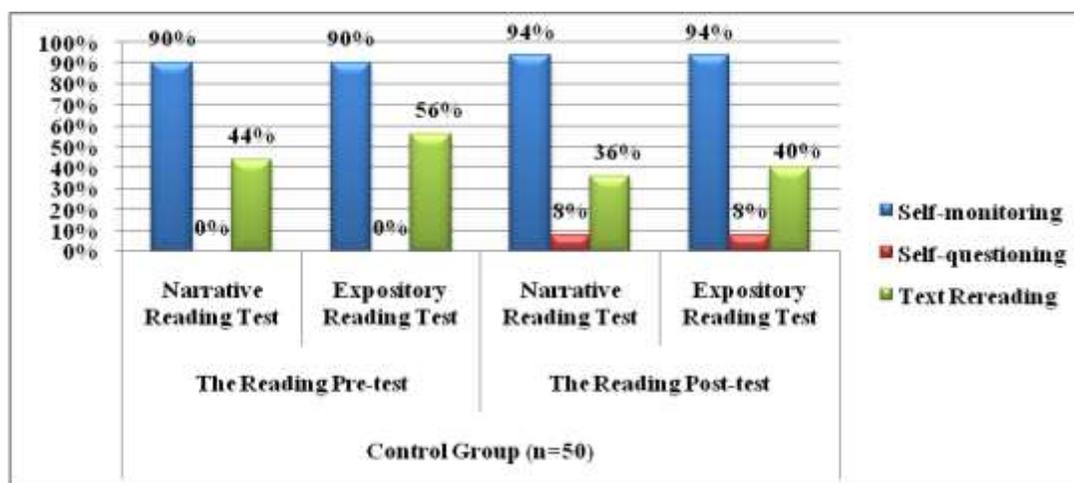


Figure 3. Control EFL learners' conduct of comprehension monitoring during reading process at pre- and post-testing

The findings reported in Figure 3 provide ample evidence that comprehension monitoring was inadequately executed by the sampled EFL learners of the control group since the subjects' monitoring behavior and techniques are typically characterized by a certain kind of stark insufficiency. Statistically speaking, at pre-testing, the subjects did manage to check their ongoing comprehension with a similar frequency of 90% for both the narrative and expository texts. Further, text rereading was reported to be implemented by the group with varying rates of 44% and 56% for the narrative text and expository text respectively. Yet, self-questioning, as a sophisticated strategic move in comprehension monitoring, was not used by the targeted EFL learners during the process of reading. This can be attributed to their incomplete awareness of the componential techniques that are used for tracking textual understanding. This state of affairs, in a way, reduces the quality of comprehension checking among the control group.

At post-testing, the strategies implemented for the sake of monitoring the comprehending act among the control group did not improve and develop compared to the ones used by the same group at pre-testing. Self-monitoring and rereading are the most recurrent strategic moves to which learners resorted in their reading of the given written texts (e.g., narrative, expository). Clearly, the comparison subjects did not reflect any improvement as to the comprehension monitoring procedure. They claimed that they engaged in self-monitoring which was executed by the group in reading both types of texts (e.g., narrative, expository) with a percentage of 94%. Moreover, text reprocessing was performed by the subjects with respectively stated frequencies of 36% and 40% in analyzing the narrative and expository written texts. However, the engagement in self-questioning was only resorted to by the participating EFL student-readers with an occurrence of 8% in reading both kinds of written texts.

As to the sampled EFL learners exposed to the experimental treatment, it is conspicuous that, after the treatment condition, they reflected some signs of improvement as regards the employment of comprehension monitoring strategies (self-monitoring, self-questioning, rereading) for the achievement of effectual comprehension of the textual input. The results are clearly displayed in Figure 4.

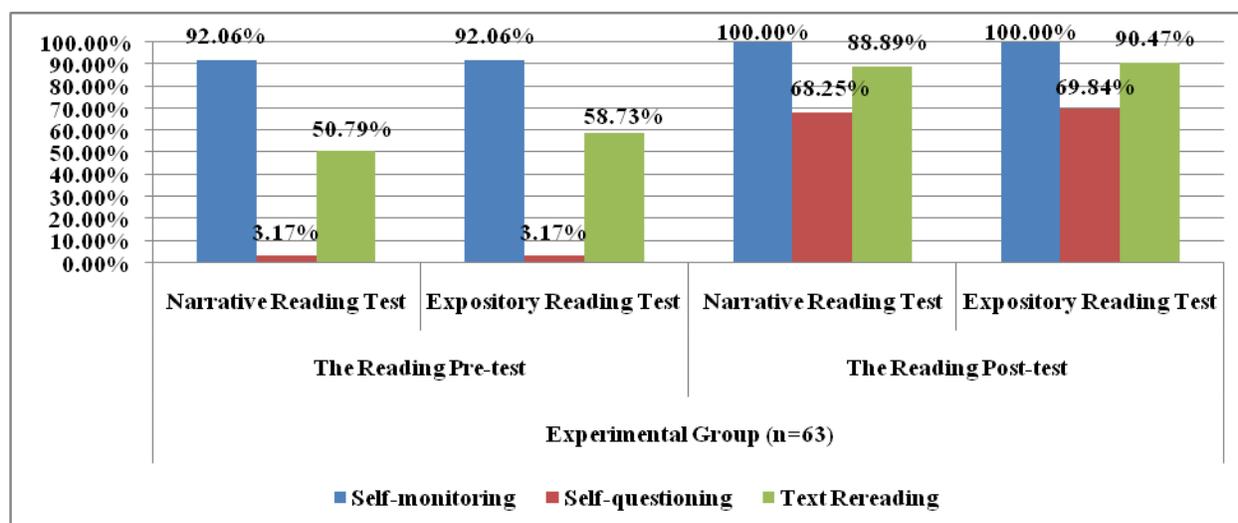


Figure 4. Treatment EFL learners' conduct of comprehension monitoring process at pre- and post-testing

As the findings explicitly reveal, the participants of the experimental group involved themselves in the self-regulated mechanism of self-monitoring whilst reading both narrative and expository written texts with an even proportion of 92.06% at the pre-testing level. But, as concerns the strategy of self-questioning, the EFL learners targeted in this study confirmed that they came up with a very few guiding and reflective questions about what is contained in both texts (e.g., narrative, expository) with a minimal occurrence of 3.17%. For the strategy of text rereading, it was performed by the participating student-readers with a percentage of 50.79% for the narrative text and with 58.73% for the expository text.

Drawing a parallel between the comprehension-monitoring process conducted by the strategy-trained group at the pre-test on the one hand, and the one undertaken at the post-test on the other hand (see Figure 4), it is evident that results show a significant increase in the use of the monitoring techniques at the post-testing. Actually, all the EFL participants managed to involve themselves in the process of self-monitoring which forms a greater part of textual reading. As to text reprocessing, it was recruited by the treatment group in an attempt to strengthen their comprehension of the included content with percentages of 88.89% and 90.47% for the narrative and expository written texts respectively.

Further, a significant increase did mark the experimental group as concerns self-questioning (see Figure 4). Indeed, the EFL subjects claimed that they depended on this technique during the act of processing the narrative and expository texts with 68.25% and 69.84% of frequent use respectively. A sample of questions brought forward by the target learners during their reading of the given written texts are as follows: 'What am I trying to understand?', 'What is the text about?', 'What does the author tend to convey?', 'What does this word mean?', 'Shall I reread this paragraph?', 'Shall I reread the whole text?' 'Is my comprehension achieved?' These kinds of reflective questions entirely engaged the target EFL learners more fully in textual analysis and enabled them to identify the focal implications and meaningful ideologies stated by the writer/author in the written discourse.

6. Discussion

The current study unveiled how Moroccan EFL learners engaged in the procedure of comprehension checking during text processing. It also explored the conceived impact of strategy intervention on Moroccan EFL university learners' comprehension inspection while coping with textual input (i.e., narrative, expository). These two objectives served as the cornerstone for investigating the issue under study.

The findings relatable to the first objective display that most EFL learners, namely those at the first-semester level, try to construct the meaning of the text by depending on self-monitoring. Both the control and experimental groups, did, to some extent, engage in the actual process of checking their ongoing comprehension during text reading. However, the effective employment of some potent reading 'heuristics' (e.g., self-questioning, text rereading) to remedy their comprehension failure or redirect their cognitive attempts at re-synthesizing the text content is rather deficient. This is in stark accord with Block's (1992) claim that L2 readers find more difficulties in textual understanding than L1 readers. In effect, the analysis of the data gained through the 'self-report questionnaire' at both the pre-test and post-test level clearly reveals that there is a certain kind of constancy in terms of the usage of self-monitoring sub-techniques while coping to decode the meaning of the written discourse. There was no substantial progress in making use of efficient comprehension monitoring techniques such as self-questioning and rereading among the control participants.

In essence, an effective comprehensibility of the text content can be achieved on the condition that readers generate relevant and 'directive' questions during the reading process. As have been empirically proved by some studies (e.g., Taboada & Guthrie, 2006), self-generated questions significantly result in variation in terms of reading comprehension. Yet, in analyzing the retrospective data at pre-testing, it was markedly transparent that most EFL subjects in both the control and experimental groups, did not engage in the process of coming up with an array of 'self-regulatory' questions that serve the crucial role of facilitating the act of understanding. Obviously, central to the meaning-construction process is the learners' potential ability to question the text content throughout the reading process because not only can self-questioning be initiated by EFL learners before the engagement in the reading act, but it can also be resorted to during and after the textual reading operation. This indicates that constant evaluation of one's understanding of the core content of the written text is primarily based on the inquiry into what the writer/author intends to convey.

Moreover, given that rereading is a remedial step to cope with comprehension failure, it is significant to state, in light of the results, that a small proportion of learners, both in the experimental and control groups, had recourse to this technique at the pre-test. In fact, the encountering of some difficult words/sentences in the text makes most EFL learners in the two groups engage in rereading so as to attain the intended meaning. This evinces that re-inspecting the content of some portions of the texts can constitute a fundamental strategic step in the learners' strategy repertoire by means of which they can re-orient their processing capacity and thinking capability towards comprehending the written discourse. Basically, some of the target EFL learners resorted to the rereading process with the purpose of clearing up any miscomprehension of the content and achieving an effective understanding of the author's/writer's stated views and conceptualizations.

As regards the second objective, it is plausible that the process of instructing EFL learners in comprehension monitoring and metacognitive thinking can be the differentiating factor between the control and the experimental group. The latter group did tap effective strategic processes (self-monitoring, self-questioning, rereading) that assisted them to handle the given written texts (e.g., narrative, expository) at post-testing. The participants of both groups at pre-testing employed the strategies of self-monitoring and rereading. Nonetheless, at post-testing, the control group remained persistent in using the same meaning-checking strategies (e.g., self-monitoring, rereading), whereas the experimental subjects did improve in the recruitment of these strategies and did have recourse to self-questioning as an effective 'heuristic' to clarify the writer's/author's implied meaning. Deemed the backbone of the comprehension-monitoring act, self-questioning contributes insights and clarifications to the textual content (King, 1991). Hence, the development of the ability to raise some 'self-regulating' questions can only come into effect via the strategy intervention which is the causal element in boosting the reading comprehension performance among learners. This is illustrative of the premise that EFL learners can foster monitoring strategic moves and that their previously acquired text-processing strategies can be subject to improvement through strategy instruction (Nietfield & Schraw 2002; Huff & Nietfield, 2009).

In this sense, the evidence presented by the current study places into perspective the implied view that exposure to the instruction in comprehension monitoring can culminate in significant reading effectiveness. This is in accordance with the findings of previous studies (e.g., Lauterbach & Bender, 1995; Yang, 2006; Allen & Hancock, 2008; Fan, 2010) which advocate the role of strategy instruction in the enhancement of textual comprehension. Throughout this study, this was tangibly reflected in an increase in the use of self-monitoring and text rereading among the experimental subjects. Additionally, owing to strategy instruction, EFL learners in the experimental condition developed the strategy of self-questioning. The latter added up to the experimental learners' strategic repertoire. Their way of approaching the text content by coming up with directive and reflective questions that are deemed the essential steps for tackling difficult written texts was a direct outcome of the strategic reading intervention.

7. Conclusion

This research paper set out to investigate the comprehension monitoring procedure to which learners resort during textual analysis and reveal the impact of strategy intervention on their monitoring strategies. Based on the attained findings, it was observable that the sampled EFL learners reflected some deficits in the comprehension monitoring process. In fact, though the two groups inclined to self-monitor their understanding of some difficult words/sentences, their engagement in the self-questioning act was hardly initiated. Put simply, inquiring the text content with a view of guiding their comprehension process was lacking among both groups, namely at the pre-testing stage. As regards rereading, only some EFL readers participating in this study tended to reread the assigned texts. These stated facts underscore the view that the learners' comprehension monitoring moves were not efficacious given the minimal degree of dependence on self-questioning and the inadequate recourse made to textual rereading.

Thus, it can be posited that Moroccan EFL learners do engage, to a lesser extent, in the meaning-checking process. Considering that readers self-monitor the written texts by having recourse to some steps (e.g., rereading some sentences, slow reading), the quality of their

monitoring remains undeveloped and inaccurate. This is suggestive of the perspective that achieving efficiency in terms of progress monitoring while being involved in reading EFL texts is dependent upon the coordination of self-monitoring, self-questioning and rereading which are the constituent elements of keeping track of an effective understanding.

Indeed, due, in part, to being exposed to a set of different written texts (e.g., narrative, expository) during the training sessions, and due to being engaged in metacognitive control, the experimental EFL learners' potential to monitor their ongoing understanding did improve to a significant level. This was reinforced by the explicit/direct strategy training as regards comprehension monitoring moves (e.g., self-monitoring, self-questioning, rereading). As indicated earlier, the comparison of the reported data at pre-testing with that of post-testing indicates that the EFL learners' monitoring abilities can be refined through both strategy instruction and the provision of texts that are of difficult content. This espouses the view that the improvement of the comprehension-checking capabilities among EFL readers is a likely outcome within a Moroccan EFL setting.

8. Implications

Some useful, practical implications drawn from this small-scale study can be manifested in differing aspects. It is apparent that the inclusion of comprehension monitoring instruction in the EFL reading comprehension course at the university level is of primary benefit and importance. This can ensure an improved level in text processing among EFL learners. Further, it is also recommended that academic practitioners select a broad array of narrative and expository texts and assign them to the learners. Indeed, the analysis and synthesis of these, and other, types of written discourse can maximize the learners' reading potential and expand their analysis techniques and synthesis skills. It is also deducible that the assignment of the written texts of difficult content can increase the learners' reading efficiency, processing efficacy and monitoring competency. This consolidates their way of strategizing the content and thinking critically and metacognitively throughout the performance of textual reading. Hence, the application of monitoring strategy instruction, along with the administration of challenging written texts (i.e., narrative, expository), to the Moroccan EFL learners is a necessary requirement in EFL reading instruction.

9. Limitations of the Study

As is the case with any conducted research, this study has some limitations. The first limitation is concerned with the variable of representativeness. Considering that this study was limited to the Faculty of Letters and Human Sciences in Rabat, it is imperative that other higher education institutions be addressed and taken as representative case studies by future researchers to gain fuller 'representativity' of the Moroccan EFL student-readers. The second limitation is bound up with the research instruments adopted for the conduct of this study. Future researchers, whose interest is nested within the sphere of the reading comprehension, are expected to resort to other data elicitation methods such as interviews and think-aloud. The third limitation pertains to the study's neglect of considering the issue of the mixed-ability students. In effect, it is true that in each group, both control and experimental, there existed learners of differing language proficiency levels. Investigating this, indeed, would give a placid view of whether an enhanced comprehension monitoring is causally associated with either the variable of language proficiency or the variable of metacognitive strategy intervention.

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References

- Allen, K. D., & Hancock, T. E. (2008). Reading comprehension improvement with individualized cognitive profiles and metacognition. *Literacy Research and Instruction*, 47 (2), 124-139. doi:10.1080/1938807080193820
- André, M. D. A., & Anderson, T. H. (1978-79). The development and evaluation of a self-questioning study technique. *Reading Research Quarterly*, 14 (4), 605-623.
- Baker, L., & Brown, A. L. (1984a). Cognitive monitoring in reading. In J. Flood (Ed.), *Understanding Reading Comprehension* (pp. 21-44). Newark, DE: International Reading Association.
- Baker, L., & Brown, A. L. (1984b). Metacognitive skills and reading. In P. D. Pearson, M. Kamil, R. Barr, & P. Mosenthal (Eds.), *Handbook of Research in Reading* (pp. 353-395). New York: Longman.
- Bereiter, C., & Bird, M. (1985). Use of thinking aloud in identification and teaching of reading comprehension strategies. *Cognition and Instruction*, 2 (2), 131-156.
- Block, E., L. (1992). See how they read: Comprehension monitoring of L1 and L2 readers. *TESOL Quarterly*, 26 (2), 319-343.
- Boumann, J. F., Seifert-Kessell, N., & Jones, L. A. (1992). Effect of think-aloud instruction on elementary students' comprehension monitoring skills. *Journal of reading Behaviour*. 24 (2), 143-172.
- Brezin, M., J. (1980). "ECTJ/ERIC-IR young scholar paper: Cognitive monitoring: From learning theory to instructional applications". *Educational Communication and Technology*, 28 (4), 227-242.
- Brown, A. L. (1981). Metacognition: The development of selective attention strategies for learning from texts. In M. L. Kamil (Ed.), *Directions in Reading: Research and Instruction* (pp.501-529). Washington, D.C.: National Reading Conference.
- Carrell, P. L. (1984). Schema theory and ESL reading: Classroom implications and applications. *The Modern Language Journal*, 68 (4), 332-343.
- Casanave, C. P. (1988). Comprehension monitoring in ESL reading: A neglected essential. *TESOL Quarterly*, 22 (2), 283-302.
- Fan, Y. C. (2010). The effect of comprehension strategy instruction on EFL learners' reading comprehension. *Asian Social Science*, 6 (8), 19-29.
- Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist*, 34 (10), 906-911.
- Flavell, J. H. (1981). Cognitive Monitoring. In W. P. Dickson (Ed.), *Children's Oral Communication Skills*. New York: Academic Press.
- Grabe, W. (1991). Current developments in second language research. *TESOL Quarterly*, 25 (3), 375- 406.
- Grabe, W., & Stoller, F. L. (2002). *Teaching and Researching Reading*. London: Pearson Education Longman.

- Huff, J. D., & Nietfeld, J. L. (2009). Using strategy instruction and confidence judgments to improve metacognitive monitoring. *Metacognition and Learning*, 4 (2), 161-176.
- Iwai, Y. (2016). The effect of explicit instruction on strategic reading in a literacy methods course. *International Journal of Teaching and Learning in Higher Education*, 28 (1), 110-118.
- Johnson, P. (1982). Effects on reading comprehension of building background knowledge. *TESOL Quarterly*, 16 (4), 503-516.
- Kern, R. G. (1989). Second language reading strategy instruction: Its effects on comprehension and word inference ability. *The Modern Language Journal*, 73 (ii), 135-149.
- Khonamri, F., & Kojidi, E. M. (2011). Metacognitive awareness and comprehension monitoring in reading ability of Iranian EFL learners. *PROFILE Issues in Teachers' Professional Development*, 13 (2), 99-111.
- King, A. (1991). Effects of training in strategic questioning on children's problem-solving performance. *Journal of Educational Psychology*, 83 (3), 307-317.
- Lauterbach, S. L., & Bender, W. N. (1995). Cognitive strategy instruction for reading comprehension: A success for high school freshmen. *The High School Journal*, 79 (1), 58-64.
- Ley, K., & Young, D. B. (2001). Instructional principles for self-regulation. *Educational Technology Research and Development*, 49 (2), 53-103.
- Mokhtari, K., & Sheory, R. (2002). Measuring ESL students' awareness of reading strategies. *Journal of Developmental Education*, 25 (3), 2-10.
- Nietfeld, J., & Schraw, G. (2002). The effect of knowledge and strategy training on monitoring accuracy. *The Journal of Educational Research*, 95 (3), 131-142
- Paris, S. G., & Myers, M. (1981). Comprehension monitoring, memory, and study strategies of good and poor readers. *Journal of Reading Behaviour*, 13 (1), 5-22.
- Schmitt, M. C., & Newby, T. J. (1986). Metacognition: Relevance to instructional design. *Journal of Instructional Development*, 9 (4), 29-33.
- Singer, H., & Donlan, D. 1982. Active comprehension: Problem-solving schema with question generation for comprehension of complex short stories. *Reading Research Quarterly*, 17 (2), 166-186.
- Taboada, A., & Guthrie, J. T. (2006). Contributions of student questioning and prior knowledge to construction of knowledge from reading information text. *Journal of Literacy Research*, 38 (1), 1-35.
- Wade, S. E., Trathen, W., & Shraw, G. (1990). An analysis of spontaneous study strategies. *Reading Research Quarterly*, 25 (2), 147-166.
- Wagoner, S. A. (1983). Comprehension monitoring: What it is and what we know about it. *Reading Research Quarterly*, 18 (3), 328-346.
- Yang, Y. (2006). Reading strategies or comprehension monitoring strategies? *Reading Psychology*, 27 (4), 313-343.
- Yoshida, M. (2012). The interplay of processing task, text type, and proficiency in L2 reading. *Reading in a Foreign Language*, 24 (1), 1-29.