

The Impact of Reading Strategy Instruction Based on QAR with Visually-Oriented Learners

Muhammad Nafi Annury^{a*}, Djoko Sutrisno^b, Siti Mariam^a, Catur Kepirianto^c

^aUIN Walisongo, Jalan Walisongo No 3-5, Semarang 50185, Indonesia

^bUniversitas Ahmad Dahlan, Jl. Kapas 9, Semaki, Umbulharjo, Yogyakarta 55166, Indonesia

^cUniversitas Diponegoro, Jl. Prof. Soedarto, SH., Tembalang, Semarang 50275, Indonesia

ABSTRACT

Language learning styles and strategies have been developing for several years as one of the crucial parts of language learning. Metacognitive techniques have been looked into as aids for improving pupils' reading comprehension. The metacognitive strategy instruction should be integrated with students' different learning styles to help them be more effective and autonomous learners. Even though learning styles are crucial to language acquisition, few studies have examined the relationship between perceptual language learning and Indonesian students' use of metacognitive reading strategies. This study examined how metacognitive techniques were used when academic reading from a visually oriented standpoint to fill the gap. An open-ended questionnaire was employed in a descriptive quantitative study. There were fifteen experimental and fifteen students in the experimental class, and the data were analyzed quantitatively. They used a reading comprehension test adopted from the Baron TOEFL reading section to achieve the pre-test and the post-test scores. The statistical results showed a significant interaction in metacognitive strategy with a visually oriented style in pre and post-test with a p-value of 0.000 ($p < 0.05$). The results of this study will persuade English teachers to provide metacognitive reading methods through suitable instructions and supervision so that students may put them into practice and advance their reading comprehension.

ARTICLE INFO

Paper type:

Research Article

Article history:

Received : 31/12/2022

Revised : 27/05/2023

Accepted : 08/07/2023

Keywords:

- Perceptual learning styles
- Reading comprehension
- EFL learners
- Metacognitive strategies
- Learning strategies

1. Introduction

Reading academic texts becomes a crucial skill for EFL students. They have to be dealt with English extensively in their daily teaching-learning process. They engage with various kinds of texts, from paragraphs to passages and particular articles that are expected to be read and understandable. Understanding that reading comprehension is not fundamentally different from other types of comprehension has been revealed. However, it is sometimes, but not always, true that reading speed affects comprehension. The capacity to comprehend the information presented by the author is referred to as reading comprehension (Muijselaar et al., 2017). This activity concerns a deliberate thought process in which the reader constructs meaning from the words read. While completely comprehending the concepts and information presented in a text. One way to demonstrate that one has already grasped the selections is to demonstrate that one can answer the questions based on the selections.

Because reading is a daily activity that is rarely questioned, it entails the efficient and consistent application of various processes, including attention, perception, comprehension, and cognitive and metacognitive processes (Oxford, 2011). Habók and Magyar (2019) define reading as a "rapid and efficient comprehension process" that is also "interactive," "strategic," "flexible," "purposeful," "evaluative," and a "linguistic process" that incorporates learning. Reading defines as interactive activity emphasized even more by interactive models that detail the process of reading. The interactive

*E-mail addresses: nafi.annury@walisongo.ac.id. (Muhammad Nafi Annury)

reading models emphasize interactions between the reader and the text and interactions between both bottom-up and vice versa processes. As a result, it is reasonable to assert that when an individual engages in active reading, he should engage in bottom-up and top-down processes. He should employ strategies that aid in decoding the knowledge in the text connecting his previous knowledge to the text, and interpreting the text.

Singh (2019) argues skillful readers acquire certain patterns of strategic and specific background knowledge, which is demonstrated when students understand the content or topic of the texts. It is therefore, readers fully of having diverse set of prior knowledge. This crucial point is required for the memory to be rebuilt with new information. The difficulties to note or how easy a text to be read, which was the greatest possible strategy used by low level students, appears to be the lowest strategy used by high level students. The most significant principle is to have a diverse set of prior knowledge.

Sheorey and Mokhtari (2001) argued that metacognitive reading strategies awareness enable readers to properly comprehend text and develop their English learning as a foreign or second language. There are two primary reasons to investigate metacognitive reading strategies. For starters, metacognitive knowledge empowers learners to be active and responsive individuals who can direct their own learning process. Second, previous research has shown that metacognitive strategies are more important than other learning strategies because language acquisition can be accelerated once a learner understands his or her learning strategies. As a result, the first consideration is whether the readers are familiar with the text's linguistic structures.

Additionally, the reader can exert metacognitive control over the content being read in the second factor. This activity essentially means that the reader can keep track of and reflect on their level of comprehension as they read. Therefore, successful readers are likely to pause and read passages more than once, attempt to summarize text, consider the writing from an author's point of view, and make connections between content and prior knowledge (Boardman et al., 2018; Mirzaei et al., 2014). According to the authors, proficient readers frequently employ metacognitive strategies as follows: which include illuminating the purpose of reading—identifying the essential features of a message, converging attention on the exciting contents, engaging in goal-setting, self-monitoring of goal attainment, and taking corrective measures when comprehension falls short of expectations. In this regard, it is worth noting that teaching metacognitive strategies is an effective way to improve learners' reading comprehension.

This recent study has been done to examine the effectiveness of metacognitive reading strategy for EFL learners (Deliany & Cahyono, 2020). They examine the use of metacognitive strategies for 53 undergraduate students. Using MARSII questionnaire to collect the data developed by (Sheorey & Mokhtari, 2001). The result indicates an improvement in reading comprehension achievement before and after implementing this strategy. In the same way, Alharbi (2015) assert that these approaches are crucial to motivating students who lack the comprehension to guide them in understanding various kinds of texts given by teachers.

On the other hand, research done by Andriani and Mbato (2021) observed many differences in students' achievement among females and males implementing metacognitive strategies instruction. The results showed that gender influence plays a vital role in improving reading comprehension. Furthermore, the students expressed various reasons for using reading strategies when facing their problems. In line with the affirmational above, several early studies on metacognition circled around less proficient learners on reading strategies (Pammu et al., 2014), asserted that students still have many problems in defining their metacognitive strategies reading strategies in academic reading. Teachers' instructions play the important role to motivate students to be more effective and efficient readers as well. Results highlighted the importance of shifting paradigm in reading process. In addition, implementing metacognitive strategies plays the important role in developing reading comprehension skills for autonomous learners (Susantini et al., 2021). By providing metacognitive strategies instruction learners to be self-regulated learners while doing reading comprehension.

As a result, teachers can easily help students analyze and manage their way of thinking and knowledge. So that the learning process through the use of metacognition activities can take place optimally. This is a strong assumption if teachers are very rare in explaining to students the importance of using metacognitive strategies in learning (Susantini et al., 2021). It is important to improve the

quality of the reading learning process, and it is necessary to have awareness from all parties so that student achievement can increase significantly following the available curriculum. Therefore, teachers are expected to provide adequate knowledge so that students can learn an active role in realizing independent learning and are useful for developing awareness in learning to read comprehensively.

However, the learning style will be the second general factor that we will consider. The concept of learning style is derived from general psychology concepts. It refers to the various ways in which individuals approach problem-solving in their own unique way. As defined by Jafarpanah and Farahian (2016) learning style defined as the relationship between metacognitive strategies and learning styles across a range of EFL skills.

As Oxford (2003) asserts, the significance of learning styles and strategies in the classroom in acquiring foreign language skills cannot be overstated. Nevertheless, it is important to remember the method by which teachers educate a foreign language, and each individual has a preferred language learning method that should be taken into consideration. For instance, people acquire knowledge in numerous ways, including the senses of sight and hearing; analyzing; visualizing; thinking; memorizing and reasoning; and reasoning. As a result, each separate involved in the learning process exhibits unique characteristics referred to as learning styles. Alternatively, strategies are deliberate plans or techniques that learners employ to accomplish a specific goal, solve a specific problem, or complete a specific task. These are some of the techniques or devices that students can employ to acquire new knowledge (Oxford, 2011).

Regarding the connection between learning styles and strategies, numerous researchers reported that learners' preferred learning styles have a significant impact on the strategies they employ (Bairmani, 2016; Cohen, 2003). According to Ehrman & Oxford (1990) and Feng et al. (2020) define language learners are more likely to employ strategies consistent with their learning styles than those not. In the same vein Chamot and Kupper (1989) argued that learning strategies do not operate independently of the learner's innate learning styles and other personality-related factors but are intimately linked to them. How learners process information has an impact on the strategies that they choose. If the learning strategies do not correspond to the learners' learning styles, they will not be able to achieve excellent results in language learning. Going back to the research done by Al-Dail and Freahat (2019), it was investigated whether there was an in-depth examination of the relationship between personality types and English reading comprehension among students in the United States. This study revealed that students who are extroverts and perceiving types perform better in interpretative comprehension than their introverted counterparts do. Students who are sensing and feeling types perform well in literal comprehension.

Uhrig (2015) assert that students' characteristics are crucial in language learning success. Thus, Lui et al. (2020) define that learning styles and personality types significantly impact higher education. Same as the affirmations above, the result is that language learning styles and strategies, according to Ehrman and Oxford (1990) are critical factors in determining how well and how quickly our students learn to speak a second or foreign language. The critical nature of the "field" of learning styles poses the most significant challenge for teachers interested in incorporating a learning styles approach into their classrooms. Several researchers have consistently recognized aspects of learning that are important and coined new standings and instruments, demonstrating the complexity of the learning process and demonstrating the importance of education research. However, as more and more people contribute to and modify the "field," it becomes broader and less focused; as a result, it becomes more difficult for teachers and students to apply the research findings.

In every learning activity carried out by all individuals, it is necessary to know whether they carry out the learning process in an independent, awakened consciousness. This is important to understand to become a strong foundation so that a good foundation pattern will be realized. It is necessary to understand if the learning by the individual is aimed at improving the competence of that individual to build comprehensive and measurable knowledge. These activities can go through a process of individual reflection related to several components, such as feelings of feeling, external sources, and others. The process of re-elaboration and individual activities is obtained from the knowledge derived from the results of certain experiences and considerations in the process of interacting relationships with other

people and the surrounding environment. Therefore, the learning styles shown by individuals are usually adopted to reflect their concern for certain learning styles and situations (Reid, 1987).

Therefore, several researchers have focused on analyzing students' learning characteristics, such as visual, auditory, and kinesthetic (Aisami, 2015; Švarcová & Jelínková, 2016; Yang & Bai, 2019). In the same way, Bairmani (2016) found the differences in learning characteristics between Western and Eastern postgraduates' program in China. The results show that western students dominantly use their kinesthetic preferences to conduct their studies more than the Chinese ones. Similarly, a study conducted by Lui et al. (2020) found that students worldwide have their own perceptual learning styles. That depends on their cultural background and nationality while studying abroad. On the other hand, Huang et al. (2019) claimed that learners need to be various kinds of learning activities and materials. Those become risen learners' motivation in doing their learning more successfully. Thus, teachers acknowledge that students' learning styles and background knowledge are needed to improve students' achievement.

It is critical to consider their preferred learning styles when working with language learners, affecting their reading comprehension while deploying various reading methods. This education examines the result of students' learning styles on reading comprehension. According to some researchers, various models can be used to ascertain a learner's preferred mode of instruction (Amini et al., 2020; Majooni et al., 2015).

Nowadays, no detailed studies have focused on implementing metacognitive reading strategies for EFL reading comprehension with different learning styles in Indonesia. Therefore, this recent gap from this recent study wanted to be observed as well. There is reason to be optimistic about establishing a valid and reliable learning style in the classroom; this will help students' profiles become more defined. Students' profiles will almost certainly become commonplace. Students may be stereotyped or self-pigeonhole, limiting their potential for learning and success. Specifically, the objective of this study is to analyze the effectiveness of implementing a question-answer relationship (QAR) as part of metacognitive strategies on EFL reading comprehension on visually oriented learners (Raphael, 1986). Second, to examine the significant impact of employment of the questions-answer relationship (QAR) on EFL reading comprehension with visually-oriented style. Third, to explore the deployment of metacognitive reading strategies of EFL with visually oriented-learners. Therefore, this recent study hypothesizes that "there is no significant impact on implementing question-answer relationship (QAR) as part of metacognitive strategies on EFL reading comprehension with visually oriented learners". The research questions raised in this study are as follows:

1. Is there any significant impact on implementing the question answer relationship (QAR) on EFL reading comprehension with visually-oriented learners?
2. How significant is the use of metacognitive strategy through question answer relationship (QAR) on EFL reading comprehension with visually-oriented learners?
3. How did the EFL with visually-oriented learners employ the metacognitive strategies in reading comprehension?

2. Methods

2.1. Research design

Reading as one of the fundamentals skills in English that should take into account for EFL. As a result, understanding and analyzing the concepts contained in a text that is being developed continuously requires conscious effort. Through the learning styles and reading strategies, students acknowledge how to solve their problems in comprehending various academic texts. Besides, teachers may improve their learning process to obtain the maximum results from the learning characteristics of their students as well. The recent study is small-scale research conducted in the reading class. There were fifteen fresh learners taken from the first semester of 2021/2022 as the participants. Using the framework for theoretical language learning styles and strategies are essential in language acquisition (Oxford, 2003). The combination of these strategies and learner characteristics are serious consideration. Comparing the students' achievement in reading comprehension before and after implementing QAR with visually

oriented learners, this study used the descriptive-quantitative design. These instruments were adopted from (Palincsar, 1986) to examine the students' awareness of instructional design while doing reading comprehension. Metacognitive strategies involve some following components: planning how to read a text, testing it, and making revisions as needed for the purpose and time at hand. Therefore, this recent strategy is closely related to an individual's mental process and behavior that deliberately control the reader's effort of deriving the meaning and understanding of the contexts. They attempted to be interested in the measure of their effectiveness in aiding comprehension and showing reader's attention how to engage with the text. Utilizing external reference materials seems to be a part of the support reading strategy.

2.2. Participant

Therefore, as an experimental study, there was only small number of participants chosen ones. There were fifteen of the students of PBI UIN Walisongo Semarang in the academic year 2021/2022 those who had visual learning styles characteristic.

2.3. Data collection

Since the study was experimental design, then the students' English reading comprehension proficiency scores were used to control the initial difference in students' achievement assessed in this study. In this present study, the students' English proficiency scores were measured using the TOEFL test. TOEFL is a comprehensive test and worldwide used as a tool to measure the EFL students' English proficiency. The task on the TOEFL test that is academically oriented as the test used primarily for admission to the highest education institutions abroad has important consequences for this study since the participants in this study are college students. This was use utilized in measuring the students' reading comprehension proficiency because this test was a standardized and familiar test for measuring the English ability of university students in Indonesia.

As a prerequisite for measuring the learner's weakness in understanding the reading text, as well as understanding the use of strategies used by students and controlling the strategies that have been used is a crucial to be considered. Many attempts, including questionnaires, have been made to determine the students' reading strategies. Sheorey and Mokhtari (2001) created the Metacognitive Awareness Reading Strategies Inventory (MARSIS) to assess L2 readers who are reading academic texts' awareness of their metacognitive reading strategies. In this study, we used MARSIS, which is divided into the following three categories: global, issue-solving, and assistance techniques. The survey is used to collect information from individuals about themselves, their households, or larger social institutions (school board). A sample survey is an important tool for gathering and analyzing information from a specific group of people. They are widely accepted as the primary tool for carrying out and applying basic social science.

Mokhtari & Reichard (2002) stated that this inventory's primary goal is to determine how well a pupil is or is not aware of the many steps involved in reading. It is made up of 30 items, each with a 5-point Likert-type scale. The MARSIS's 30 items are divided into three categories: global (13 items), problem-solving (8 items), and support reading strategies (9 items). In general, the global reading strategy is a collection of reading strategies aimed at a global analysis of the text. The problem-solving reading strategy focuses on problem-solving strategies for when the text becomes difficult to read. The use of outside reference materials is part of the support reading strategy. The components of these strategies are detailed in the findings section. Global strategies are those deliberate techniques used prior to, during, and following reading activities. They are typically carefully thought-out strategies used to track the reading process and are meant to prepare the environment for the reading activity.

There were several procedures in collecting the data during teaching process. The first section was a meeting for a giving pre-test to know their initial reading comprehension proficiency to make sure the experimental group is equivalent compared to the control group (Ary et al., 2018). Since the beginning of the treatment in September 2021. In the first meeting, the learning styles questionnaire was also given

to EFL students for about 30 minutes after they had completed the pre-test to know their initial performance in reading comprehension.

The second section was related to the treatments of MSI procedure which applied for ten meetings held in several meetings during September 2021. The third session was used for assessing their reading comprehension proficiency test using TOEFL material for examining the difference considering students' achievement in terms of significance between the pre-test and the post-test. The objective of the second session was to introduce the monitoring skill and its supporting techniques. A review of the planning techniques discussed in the previous session was done before the session started. Students were reminded of the importance of planning one's learning and studies, as well as the advantages in terms of time, effort, and output. The training power point was re-shown, and students were quizzed on their comprehension of monitoring and its relevance to planning. Students also had access to the table where they had previously classified planning and monitoring strategies. Questions like, students' replies to the question "What separates planning from monitoring?" can be guided. In our workshop. Why, in your opinion, does monitoring follow planning?

Using the question-answer relationships procedure, the researcher provided a model of the group's monitoring techniques: remember, my objective is to learn/memorize the procedures to follow in the event of a car problem. After reading the first three steps of the passage, the researcher pauses: Should I start by highlighting right away or should I read the entire passage first and then try to remember it? Should I read more slowly or is the rate at which I'm reading allowing me to concentrate on and memorize the steps? Then, he continues to read before pausing to ask, "Am I memorizing anything?" Other than reading slowly and highlighting, what other strategies can I employ? Is there a pattern to the steps that would help me remember them all?

In the third section, the material from the first two sessions was reviewed, and the students were invited to discuss what they discovered and several scenarios where planning and monitoring might be employed.

2.4. Data analysis

Therefore, the instrument in this study was used to measure the students' English reading comprehension proficiency. Students' reading comprehension proficiency scores were obtained from the pre-test and the post-test done by EFL students of the English Department of UIN Walisongo Semarang. The last instrument was used to determine students' preferences regarding their awareness of conducting reading comprehension in the classroom.

Since the study was an experimental design, the students' English reading comprehension proficiency scores were used to control the initial difference in students' achievement assessed in this study. The present study measured the students' English proficiency scores using the TOEFL test. The Non-Parametric Statistical Test analysis was administered using the Wilcoxon Signed Ranks Test in SPSS 21. When there is a violation of the normality assumption or when data is not of appropriate sampling (Tashakkori & Creswell, 2007).

3. Results and Discussion

3.1. Results

This recent study aimed to analyze the effectiveness of implementing metacognitive strategies in EFL through question-answer relationships (QAR) with visually-oriented learners. Therefore, this study examined whether there was any significant impact in implementing metacognitive strategies through question-answer relations with visually-oriented learners. This part provides information in the form of assumption test results and hypothetical test findings that are given sequentially or in combination and critically analyzed.

3.1.1. Significant impact on implementing the question answer relationship (QAR) on EFL reading comprehension with visually-oriented learners

As shown in Table 1, students' reading comprehension proficiency got an improvement of 24% after getting the treatment of QAR. It can be seen that the average scores of visual learners were comparatively outperformed than their pre-test scores. Students got an average score of 49% in the pre-test and after getting treatment of QA was outperformed to be 73.01% in the average score. Based on the analysis using a t-test, it found that the t-value of t-observe -8,037 with a significant level of 0,000 ($< 0, 05$). It shows that there is a difference between the pre-test score and post-test score visual learning style. The score of the post-tests is better than the pre-test.

Table 1. Independent Sample Test

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval		
								Lower	Upper	
Score	Equal variances assumed	,016	,900	-8,037	28	,000	-24,01333	2,98794	-30,13389	-17,89821
	Equal variances not assumed			-8,037	27,997	,000	-24,01333	2,98794	-30,13389	-18,89278

There is a significant difference between the pre-and post-test scores. As a result, the N-Gain test can compare results before and after QAR use. Table 2 shows that the QAR application has improved because the N-Gain test gave it a score of 0.47. It means that the use of the QA is effective to teach reading comprehension to students with visual learning styles. Therefore, the research hypothesis is accepted.

Tabel 2. N-Gain

Pre-Test	Post-test	N-Gain	Criteria
49,00	73,01	0,47	average

English language teachers must become more aware of the potential difficulties that may impede students' ability to achieve their learning objectives, particularly in understanding academic texts he fact that metacognitive strategies can be trained is intriguing. A reading intensive course combined with the strategy. In addition, to give students a more well-rounded educational experience and preparing them for academic success, strategy training also helps faculty members become competent and successful in their future careers.

3.1.2. The use of metacognitive strategy through question answer relationship (QAR) on EFL reading comprehension with visually-oriented learners

Initially, students had difficulties with reading comprehension before implementing metacognitive strategies through the question-answer relationship. The researchers used the t-test to analyze the results obtained before and after the treatment. By conducting this analysis, it can be shown that the results of the treatment were significantly improved. The mean score of students' reading comprehension tests was 49.00, which was very low for their achievements. It indicates that students need to improve their ways of improving their achievements in reading comprehension. Through question-answer relationships, activities allow students to become more confident in developing their self-awareness to

solve reading comprehension problems after giving treatment to the learners for three weeks using the question-answer strategy on reading comprehension. It is seen that findings from descriptive statistics show that visual learners have significant improvement in their reading comprehension proficiency after learning this strategy. Therefore, students' achievements outperformed after implementing question-answer relations during their reading comprehension class. In addition, students got beneficial guidance from the teacher while doing reading activities in the classroom. It can be seen from the statistical analysis above that there is a difference between the pre-test and the post-test scores. It shows that the mean score of the post-test was 73.01333. Moreover, it meant that the visual learners significantly impacted the improvement of reading comprehension average score of 24 %, as seen in Table 2. The descriptive statistics were analyzed to scrutinize the effectiveness of QAR on reading comprehension of both the pre-and post-tests, including kids who like to learn visually.

Table 3. Statistic before & after using QAR

	Visual Learning Style	N	Mean	Std. Deviation	Std. Error Mean
Score	Before Using QAR	15	49,0000	8,22670	2,12412
	After Using QAR	15	73,0133	8,13870	2,10140

3.1.3. Metacognitive reading strategies awareness used by EFL with visually-oriented learners

The result of the questionnaire based on the recent study shows the metacognitive awareness reading strategies instruction (MARSII) was seen as the frequency or percentage of strategies used to explore students' responses to the metacognitive strategies while learning to read. The table in Table 3 summarizes the overall reading strategies and variations in strategies used for each category. Students who did global strategies got (M = 3.517) in the mean. Therefore, the problem-solving strategies were implemented at a high level among support and global strategies with a mean score of (M = 3.744). While students who implemented support strategies got (M = 3.3920).

Table 4. Mean of each metacognitive awareness for visual learning

	Metacognitive Strategies		Statistic	Std. Error
Score	Global Strategies	Mean	3,5173	,16161
	Problem-Solving Strategies	Mean	3,7447	,12685
	Support Strategies	Mean	3,3920	,12544

3.2. Discussion

This recent study implementing a descriptive statistical analysis approach, this study investigated undergraduate students' metacognitive reading techniques in their academic reading. The findings showed that students could evaluate each strategy use and provide other tactics they had employed to identify their strategy uses. The current study found a significant positive impact on students' characteristics or learning styles (visual-oriented), and the results suggest that FL reading uses a metacognitive technique. The learning styles that are most closely associated with metacognitive strategy are visual, closure, and synthesis. In other words, learners who have these learning styles use more metacognitive strategies in their FL reading. English language teachers must become more aware of the potential difficulties that may impede students' ability to achieve their learning objectives, particularly in understanding academic texts. The fact that metacognitive strategies can be trained is intriguing. A reading-intensive course is combined with the strategy. In addition, to give students a more well-rounded educational experience and preparing them for academic success, strategy training also helps faculty members become competent and successful in their future careers.

Question-answer relationships as metacognitive strategies used with visually oriented learners played a crucial role in teaching reading comprehension. The study's result showed that students who used the strategies outperformed in the post-test. Succeeding learners were employing the current strategies. A study by Shi (2011) discovered that synthesizing learners employ metacognitive techniques in their learning process and have traits including summarizing materials, making

assumptions about meaning, foreseeing consequences, and finding parallels. Furthermore, in other studies, Shannon (2008) explained that visual learners preferred to use metacognitive strategies such as self-assessment, self-questioning, and evaluation. Each learner in FL learning tends to use specific strategies more than others based on their learning styles.

According to Pressley et al. (1987, as cited in Bruning et al. 2004), the most crucial requirement is having a wide range of prior knowledge. Skilled readers must have a domain-specific strategy, which is demonstrated when students comprehend the content or topic of the texts (Pressley, 1987). It takes prior knowledge to reassemble new information in the memory. The second interesting fact is that the Hard (I note how difficult or easy a text is to read) strategy, which was the highest strategy used by low-level students, seems to be the lowest strategy used by high-level students. Hence, Oxford (2017) believes that one of the key elements affecting how learners learn a second or foreign language and how well they do is their language learning methods and styles (p. 1). The fact that the "field" of learning styles is so important presents the biggest challenges for teachers interested in implementing a learning styles approach in their classrooms. Numerous researchers have frequently identified learning elements and developed new terminologies and tools, which is undoubtedly a sign of how complex the learning process is.

By knowing learners' characteristics, the teacher pays a lot of attention to developing students' achievement. The researchers may conclude that to help students become strategic learners, teachers should become aware of students' learning strategies and have dynamic teaching styles. As a result, the findings of this study can be utilized to inform teachers about the many learning strategies that kids may adopt. Furthermore, knowing how students view learning styles may help teachers approach their duties from various angles and better grasp the significance of reflecting on and altering their learning patterns. Finally, teachers may become aware of the tactics used by students and understand the importance of teaching varied learning strategies following individual needs.

Furthermore, table 4 summarizes the use of metacognitive reading strategies with visually-oriented learners. The metacognitive reading strategies used by learners through question-answer relationships play a crucial role in the current strategies, which are divided into three categories: global strategies, problem-solving, and support strategies. Generally, the global reading strategy is a group of reading techniques designed to analyze the text broadly. The problem-solving reading strategy focuses on problem-solving strategies to use when reading a difficult text. Outside reference materials are used as part of the support reading strategy. The components of these strategies are described in detail in the results section. Furthermore, problem-solving strategies predominated and played a significant role for visually-oriented individuals. These strategies seemed fruitful for students to develop their knowledge in solving their problems in reading comprehension. By this, students know how to decide the content or the various topics from the texts given and the text's topic and determine whether or not they have prior knowledge of the text.

English language teachers must become more aware of the potential difficulties that may impede students' ability to achieve their learning objectives, especially when reading academic texts. The ability to be trained makes metacognitive strategies intriguing. A reading-intensive curriculum combined with strategy instruction gives students a more comprehensive learning experience, positions them for academic success, enables the eventual development of critical thinking abilities, and different positions them for competence and success in their future careers.

Most research on the relationship between personality and achievement in reading comprehension has yielded inconsistent results. According to the current study, the lack of studies on the relationship between personality, learning preferences, and success in reading comprehension indicates that additional research in the areas mentioned above is urgently needed, as well as the inconsistent findings of previous studies on personality and reading comprehension performance.

According to recent research on learning styles, personality types, and L2 performance, there is a connection between learners' personality types and how they create their learning preferences, and how well they learn languages. However, studies in both theory and practice have shown the connection between the influence of personality on reading comprehension. However, empirical research outcomes in this field are not that consistent; different studies produced results that agreed.

4. Conclusions

This recent study can be concluded with the implications of metacognitive strategy on reading comprehension with different learning styles. Besides using a metacognitive strategy in reading comprehension, the lecturer also should pay attention to students' different learning styles and characteristics. The teacher can take account of several activities, such as plan, monitoring, and evaluating the teaching and learning process, so they can implement appropriate treatment in teaching. The lecturer can plan several actions to get students involved in the learning process without assisting them all the time. The lecturer can only guide the students in reading comprehension through the metacognitive strategy of instruction. By implementing the further strategy and monitoring the reading comprehension process, students can easily measure their reading comprehension awareness while reading texts. Theoretically, it is also valuable to give the faculty information to understand the awareness of students' reading comprehension strategies and their different learning styles. This recent study is fruitful and beneficial for the process of teaching reading comprehension and how to create meaningful activities in the teaching-learning process through metacognitive strategy.

Learners were conscious of their objectives when using metacognitive reading strategies. They could also keep track of their reading progress, check their comprehension, organize their tactics, assess how well they worked, and, following an assessment, change their strategy choice as necessary. Through the efficient monitoring of the comprehension processes, which were thought to be crucial in the development of proficient reading, learners will be given the tools for metacognition.

References

- Aisami, R. S. (2015). Learning Styles and Visual Literacy for Learning and Performance. *Procedia - Social and Behavioral Sciences*, 176, 538–545. <https://doi.org/10.1016/j.sbspro.2015.01.508>
- Al-Dail, H. K., & Freahat, N. M. (2019). Saudi EFL Students Personality Types and Their Language Learning Strategies. *Journal for the Study of English Linguistics*, 7(1), 55. <https://doi.org/10.5296/jsel.v7i1.14871>
- Alharbi, M. A. (2015). Reading Strategies, Learning Styles and Reading Comprehension: A Correlation Study. *Journal of Language Teaching and Research*, 6(6), 1257. <https://doi.org/10.17507/jltr.0606.13>
- Amini, D., Anhari, M. H., & Ghasemzadeh, A. (2020). Modeling the relationship between metacognitive strategy awareness, self-regulation, and reading proficiency of Iranian EFL learners. *Cogent Education*, 7(1), 1787018. <https://doi.org/10.1080/2331186X.2020.1787018>
- Andriani, E., & Mbato, C. L. (2021). Male and female Indonesian EFL undergraduate students' metacognitive strategies in academic reading: planning, monitoring and evaluation strategies. *Journal on English as a Foreign Language*, 11(2), 275–296. <https://doi.org/10.23971/jefl.v11i2.3006>
- Ary, D., Jacobs, L. C., Irvine, C. K. S., & Walker, D. (2018). Introduction to research in education. <https://www.google.com/books?hl=en&lr=&id=4RREDwAAQBAJ&oi=fnd&pg=PP1&dq=ary+2018&ots=8m5GJPkwtm&sig=wdEYCF4oOYVxy1i3u0LfhoaWJGk>
- Bairmani, H. (2016). *College Students' Use of Language Learning Styles and Strategies*.
- Boardman, A. G., Boelé, A. L., & Klingner, J. K. (2018). Strategy Instruction Shifts Teacher and Student Interactions During Text-Based Discussions. *Reading Research Quarterly*, 53(2), 175–195. <http://www.jstor.org/stable/26622506>
- Bruning, R. H., Schraw, G. J., Norby, M. M., & Ronning, R. R. (2004). *Cognitive psychology and instruction* (4th ed.). Upper Saddle River, NJ: Pearson
- Chamot, A. U., & Kupper, L. (1989). Learning Strategies in Foreign Language Instruction. *Foreign Language Annals*, 22(1), 13–22. <https://doi.org/10.1111/j.1944-9720.1989.tb03138.x>
- Cohen, A. D. (2003). The learner's side of foreign language learning: Where do styles, strategies, and tasks meet? *IRAL - International Review of Applied Linguistics in Language Teaching*, 41(4), 279–291. <https://doi.org/10.1515/iral.2003.013>
- Deliany, Z., & Cahyono, B. Y. (2020). Metacognitive reading strategies awareness and metacognitive reading strategies use of EFL university students across gender. *Studies in English Language and*

- Education*, 7(2), 421–437. <https://doi.org/10.24815/siele.v7i2.17026>
- Ehrman, M., & Oxford, R. (1990). Adult Language Learning Styles and Strategies in an Intensive Training Setting. *The Modern Language Journal*, 74(3), 311–327. <https://doi.org/10.1111/j.1540-4781.1990.tb01069.x>
- Feng, Y., Iriarte, F., & Valencia, J. (2020). Relationship Between Learning Styles, Learning Strategies and Academic Performance of Chinese Students Who Learn Spanish as a Foreign Language. *The Asia-Pacific Education Researcher*, 29(5), 431–440. <https://doi.org/10.1007/s40299-019-00496-8>
- Habók, A., & Magyar, A. (2019). The effects of EFL reading comprehension and certain learning-related factors on EFL learners' reading strategy use. *Cogent Education*, 6(1), 1616522. <https://doi.org/10.1080/2331186X.2019.1616522>
- Huang, T.-C., Chen, M.-Y., & Hsu, W.-P. (2019). Do Learning Styles Matter? Motivating Learners in an Augmented Geopark. *Journal of Educational Technology & Society*, 22(1), 70–81. <https://www.jstor.org/stable/26558829>
- Jafarpanah, Z., & Farahian, M. (2016). The Relationship between Learning Styles and Metacognitive Reading Strategy of EFL Learners. *International Research in Education*, 4(1), 47. <https://doi.org/10.5296/ire.v4i1.8383>
- Lui, C. J., Ferrin, S. E., Baum, D. R., & Randall, V. E. (2020). The Preferred Perceptual Learning Styles of Hispanic Higher Education Students. *Journal of Hispanic Higher Education*, 19(4), 404–421. <https://doi.org/10.1177/1538192718801793>
- Majooni, A., Masood, M., & Akhavan, A. (2015). Scientific Visualizations Based on Integrated Model of Text and Picture Comprehension via Eye-tracking. *Procedia - Social and Behavioral Sciences*, 176, 52–59. <https://doi.org/10.1016/j.sbspro.2015.01.443>
- Mirzaei, A., Rahimi Domakani, M., & Heidari, N. (2014). Exploring the relationship between reading strategy use and multiple intelligences among successful L2 readers. *Educational Psychology*, 34(2), 208–230. <https://doi.org/10.1080/01443410.2013.785053>
- Mokhtari, K., & Reichard, C. (2004). Investigating the strategic reading processes of first and second language readers in two different cultural contexts. *System*. <https://doi.org/10.1016/j.system.2004.04.005>
- Muijselaar, M. M. L., Swart, N. M., Steenbeek-Planting, E. G., Droop, M., Verhoeven, L., & de Jong, P. F. (2017). Developmental Relations Between Reading Comprehension and Reading Strategies. *Scientific Studies of Reading*, 21(3), 194–209. <https://doi.org/10.1080/10888438.2017.1278763>
- Oxford, R. L. (2003). Language learning styles and strategies: Concepts and relationships. *IRAL - International Review of Applied Linguistics in Language Teaching*, 41(4). <https://doi.org/10.1515/iral.2003.012>
- Oxford, R. L. (2011). Strategies for learning a second or foreign language. *Language Teaching*, 44(2), 167–180. <https://doi.org/10.1017/S0261444810000492>
- Oxford, R. L. (2017). *Teaching and researching language learning strategies: Self-regulation in context*. London, UK: Routledge.
- Palincsar, A. S. (1986). Metacognitive Strategy Instruction. *Exceptional Children*, 53(2), 118–124. <https://doi.org/10.1177/001440298605300203>
- Pammu, A., Amir, Z., & Maasum, T. N. R. T. M. (2014). Metacognitive Reading Strategies of Less Proficient Tertiary Learners: A Case Study of EFL Learners at a Public University in Makassar, Indonesia. *International Conference on Knowledge-Innovation-Excellence: Synergy in Language Research and Practice (2013), Organized by School of Language Studies and Linguistics, Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia (National Uni, 118, 357–364*. <https://doi.org/10.1016/j.sbspro.2014.02.049>
- Pressley, M., Borkowski, J. G., & Schneider, W. (1987). Cognitive strategies: Good strategy users coordinate metacognition and knowledge. *Annals of Child Development*, 4, 89–129.
- Raphael, T. E. (1986). Teaching question answer relationships, revisited. *The Reading Teacher*, 39(6), 516–522.
- Reid, J. M. (1987). The Learning Style Preferences of ESL Students. *TESOL Quarterly*, 21(1), 87–111. <https://doi.org/10.2307/3586356>
- Shannon, S. (2008). Using metacognitive strategies and learning styles to create self-directed learners. *Institute for Learning Styles Journal*, 1(2001), 14–28.

- http://www.auburn.edu/academic/education/ilsrj/Journal_Volumes/Fall_2008_Volume_1_PDFs/Metacognitive_Strategies_and_Learning_Styles.pdf
- Sheorey, R., & Mokhtari, K. (2001). Differences in the metacognitive awareness of reading strategies among native and non-native readers. *System*, 29(4), 431–449. [https://doi.org/10.1016/S0346-251X\(01\)00039-2](https://doi.org/10.1016/S0346-251X(01)00039-2)
- Shi, C. (2011). A Study of the Relationship between Cognitive Styles and Learning Strategies. *Higher Education Studies*, 1(1), p20. <https://doi.org/10.5539/hes.v1n1p20>
- Singh, S. (2019). Developing reading comprehension through metacognitive strategy training. *Asian EFL Journal*, 23(3).
- Susantini, E., Puspitawati, R. P., Raharjo, & Suaidah, H. L. (2021). E-book of metacognitive learning strategies: design and implementation to activate student's self-regulation. *Research and Practice in Technology Enhanced Learning*, 16(1), 13. <https://doi.org/10.1186/s41039-021-00161-z>
- Švarcová, E., & Jelínková, K. (2016). Detection of Learning Styles in the Focus Group. *Procedia - Social and Behavioral Sciences*, 217, 177–182. <https://doi.org/10.1016/j.sbspro.2016.02.057>
- Tashakkori, A., & Creswell, J. W. (2007). Editorial: The New Era of Mixed Methods. *Journal of Mixed Methods Research*, 1(1), 3–7. <https://doi.org/10.1177/2345678906293042>
- Uhrig, K. (2015). Learning styles and strategies for language use in the context of academic reading tasks. *System*, 50, 21–31. <https://doi.org/10.1016/j.system.2015.02.002>
- Yang, C., & Bai, L. (2019). The use of metacognitive strategies by Chinese PhD students of social sciences in Australian universities. *International Journal of Educational Research*, 97. <https://doi.org/10.1016/j.ijer.2019.06.007>