



AN ACTION RESEARCH ON METACOGNITIVE READING STRATEGIES INSTRUCTION TO IMPROVE READING COMPREHENSION



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ABSTRACT

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One of the most important skills that students need to master is reading, yet the dismal results of Malaysian students on international reading assessments suggest that they still lack the necessary skills for reading. An action research was conducted to investigate the effects of instruction in metacognitive reading strategies to aid students' reading comprehension. Chosen based on convenience sampling, 25 participants in this study were 13-year-olds from a secondary school in Kuala Lumpur. The Metacognitive Awareness of Reading Strategies – Revised (MARSIR) was the main instrument used to identify the needs of the students and to keep track of their progress. The mean for the overall items and three subscales was calculated to compare the results before and after the interventions. Like previous studies carried out on reading strategies instruction, there was an increase in participants' awareness of metacognitive reading strategies following the training. While the results were limited to this particular school and could not be generalised to all secondary schools in Kuala Lumpur, English language teachers in secondary schools could consider integrating metacognitive reading instruction into their reading classrooms. Future studies could investigate the metacognitive reading strategies that good and poor readers use. Researchers could also look into developing a handbook of materials for training in such strategies.

Contribution/ Originality: This study contributes to the existing literature on metacognitive reading strategies. Results imply that the instruction of metacognitive reading strategies has its merit and could have a place in the English language classroom, as it facilitates students' reading comprehension.

1. INTRODUCTION

One of the aspirations of the Malaysian Education Blueprint (2013 – 2025) is to ensure that students are literate in both Malay and English languages. To achieve this, English teachers undergo courses to improve their own language proficiency, and students get more contact hours with the language. In 2016, the Highly Immersive Programme was launched so that students have opportunities to practise the language out of the classroom and improve their command of it. Two years later, the Dual Language Programme (DLP) was launched and schools get to decide on the medium of instruction for Mathematics and Science – either Malay or English. In the same year, the Common European Framework of Reference for Languages (CEFR) was adopted, and foreign English textbooks aligned with the CEFR were used.

All these steps highlight the fact that English is acknowledged as an important language to be mastered by Malaysian students. English is now spoken by 25 percent of the world's population, and used widely in "communications, science, information technology, business, entertainment and diplomacy" (British Council, 2013). With a firm grasp of English, one is able to access further education and secure jobs with better pay (Wang, Smyth, & Cheng, 2015). For Malaysian students to be on a level playing field with their international peers, they must first master the skill of reading.

Nonetheless, the results of the 2009 worldwide Programme for International Student Assessment (PISA) indicate that Malaysian students did not achieve the average either internationally or in the Organisation for Economic Cooperation and Development (OECD). Furthermore, 44% of Malaysian candidates failed the reading test. This suggests that Malaysian students may not have the skills to read effectively, and Malaysian teachers are not teaching the skills needed for comprehension. In a bid to prevent this problem from escalating, the "Program HEBAT Bacaan" was introduced. Malay and English language teachers were given training and a module to guide them on how to incorporate reading strategies in the reading classroom.

Hitherto, on the local front, there has been limited research into reading strategy among primary and secondary school students (Kiu & Yamat, 2020; Tigarajan, Yunus, & Aziz, 2016; Zakaria, Azmi, & Hadi, 2019) and hardly any research into the instruction of metacognitive reading strategies to improve reading comprehension among secondary school students in Malaysia.

1.1. Research Question

The following question guided the study:

RQ1: Does metacognitive reading strategies instruction facilitate reading comprehension?

1.2. Hypotheses

These are the hypotheses of the study:

Ho1: There is no significant difference in the results of students before and after the metacognitive reading strategies instruction.

Ha1: There is significant difference in the results of students before and after the metacognitive reading strategies instruction.

2. LITERATURE REVIEW

2.1. Reading and Comprehension

There are five important components that make up reading: "phonemic awareness, phonics, fluency, vocabulary and comprehension" (Shanahan, 2005). Phonemic awareness is the ability to understand the way phonemes operate, and phonics is the association between the letters and their sounds. Fluency refers to the pace of the reader when he is reading and how he articulates it meaningfully, while vocabulary is the words that the readers are familiar with. Last but not least, the purpose of reading is to comprehend a text. Nonetheless, the process of achieving comprehension is a complex one which requires the reader to interpret the letters on the reading material and interact with the text by making predictions, drawing upon previous experiences, considering all information available and eventually arriving at the meaning that the author is trying to convey to his or her readers (Burns, Roe, & Smith, 2002).

2.2. Reading Strategies

Integral to the process of comprehension is the use of reading strategies. Different texts require readers to use concoctions of different reading strategies, some more than others. According to Duffy (2014), reading strategies are employed "before-you-begin reading", "as-you-begin reading", "during reading" and "after reading". When a

reader encounters a text, he will first establish the reason for reading it. Then, he will make predictions about the text based on his prior knowledge. As he reads and gathers more information from the reading material, he will monitor himself, ask questions, and make predictions again if the earlier predictions did not match what the text is presenting. If the reader stumbles in his reading, he actively takes steps to remedy the situation. Coming to the end of the text, the reader reflects upon the reading process and checks if the objective of reading has been achieved, makes a summary of the material, and finds ways to apply the new information.

2.3. Metacognition

Metacognition encapsulates the awareness and ability to control one's thinking (Matlin, 2002). Baker and Brown (1984) state that there are two parts to metacognition. Firstly, one must be cognizant of what is needed to do something effectively. Secondly, one must plan the steps to achieve the end goal, monitor, and check if one is heading towards the correct direction – and if not, think of ways to address the problem.

2.4. Metacognitive Reading Strategies

Metacognition is applicable in learning and helps learners to progress better. Reading is a skill that may require the use of metacognition at different stages of the reading process, especially monitoring comprehension by readers (Baker & Brown, 1984). Studies have shown that good readers are able to use metacognitive reading strategies more effectively than poor readers (Garner, 1987 as cited in Philippot and Graves (2008)). In 2002, Mohktari and Reichard came up with three categories of classification of metacognitive reading strategies – Global Reading Strategies, Support Reading Strategies and Problem-solving Strategies. Global Reading Strategies are steps taken to get an overall idea of the text. Meanwhile, Support Reading Strategies are ways to sustain the reading. Lastly, Problem-solving Strategies, as the name suggests, are means to overcome stumbling blocks in comprehension. Some studies suggest there is a correlation between the use of metacognitive reading strategies and reading scores (Batang, 2015; Guo, 2018). Other studies imply that language learners who are proficient in the target language are better users of metacognitive reading strategies (Pammu, 2015; Yayli, 2010). Results of studies conducted into online metacognitive reading strategies such as that by Azmuddin, Nor, and Hamat (2017) were similar to the ones conducted on printed materials by Yüksel and Yüksel (2012), whereby Problem-solving Strategies were used the most, followed by Global Reading Strategies and Support Reading Strategies, which were used the least.

2.5. Instruction on Metacognitive Reading Strategies

There is no one specific way of conducting the instruction of metacognitive reading strategies, and the results are inconclusive. On the one hand, previous research that was carried out reported that there was an increase in the performance of English language learners in reading comprehension following training in metacognitive reading strategies (Ahmadi & Gilakjani, 2012; Hou, 2015). However, a study by McKeown and Gentilucci (2007) differed slightly as it showed no significant improvement among certain participants' reading scores after the instruction.

3. METHODOLOGY

3.1. Research Design

An action research aims to increase students' learning by introducing effective ways to improve their academic performance (Henning, Stone, & Kelly, 2009). With the rich data collected from the classroom, it allows teachers themselves to scrutinise their own work (Hendricks, 2006). The action research served to answer the research question of this study by finding out if the instruction of metacognitive reading strategies enhances students' reading comprehension.

3.2. Participants

Participants for this study were chosen based on convenience sampling. A total of 25 13-year-olds from an urban school in Kuala Lumpur, Malaysia, participated in this study. 20 of them are women, and five men. The Malay language is their mother tongue and they learn English as a second language at school.

3.3. Instrument

The Metacognitive Awareness of Reading Strategies Inventory – Revised (MARSIR) by Mokhtari, Dimitrov, and Reichard (2018) was used in the study. It is a simplified version of the MARSIR developed by Mokhtari and Reichard (2002), which originally contained 30 items. The revised instrument consists of three subscales, each with five items. The participants had to rate themselves on a five-point Likert scale. One represents 'I have never heard of this strategy before' while five means 'I know this strategy quite well and I often use it when I read'.

3.4. Research Procedures

The study was conducted over two cycles of action research: identifying the needs of the participants, intervention one, collecting data, intervention two, and a final collection of data. Firstly, MARSIR was administered to determine the metacognitive reading strategies that the participants lacked. The top five items that the participants had rated one and two were identified for intervention. Materials for instruction of the five metacognitive reading strategies were developed and the participants were instructed on the strategies over two 50-minute sessions during school hours. Explanation was provided and modelled by the teacher, and students had guided practice. Then, participants rated themselves with MARSIR again. The top five items that the participants had rated one and two were once more identified for intervention. The materials for the second intervention were prepared based on the top five strategies listed, and the participants had two sessions of 50-minute instruction during school hours. Similar to the first round of intervention, the teacher explained and modelled the reading strategies. After two cycles of intervention, the participants were asked to fill in the instrument for the final time. This enabled the researcher to compare the results of the first, second and final data to determine whether or not the instruction of metacognitive reading strategies had indeed improved students' reading comprehension.

3.5. Data Analysis

Quantitative data analysis was used in this study. The overall mean, and the mean of the three subscales before and after the interventions were calculated using the IBM SPSS Statistics 23. The results of the normality test indicated that the non-parametric Wilcoxon Signed-rank test would be used to determine whether there was a significant difference between the mean score at the beginning of the study and at the end of it.

4. RESULTS

4.1. Overall Means of MARSIR

Table 1 illustrates the overall mean of the participants from the first, second and last survey. According to the survey developers, a mean of 1.0 to 2.4 indicates a low level of awareness, while 2.5 to 3.4 indicates a medium level of awareness, and 3.5 to 5.0 a high level of awareness. Initially, the overall mean for all the participants was 3.48. The mean from the second survey was 3.50, and the final mean was 3.96. This indicates that the participants generally improved their knowledge and use of metacognitive reading strategies. As a group, they progressed gradually from having a medium level of awareness to a high level of awareness over the span of two interventions. Table 2 and Table 3 show the results generated from the Wilcoxon Signed-rank test. There was an increase in the participants' level of awareness (average rank of 6.58 versus average rank of 15.03). The null hypothesis of not having a significant difference between the mean scores before and after the interventions can be rejected. The

interventions did cause a significant difference in participants' awareness of metacognitive reading strategies ($Z = -3.315$, $p = 0.001$).

Table-1. Overall mean scores of the three surveys.

Overall Mean	Mean	S.D.
Prior to the interventions	3.48	0.54
After the first intervention	3.50	0.58
After the second intervention	3.96	0.51

Source: Participants' questionnaire.

Table-2. Ranks.

		N	Mean Rank	Sum of Ranks
Posttest - Pretest	Negative Ranks	6 ^a	6.58	39.50
	Positive Ranks	19 ^b	15.03	285.50
	Ties	0 ^c		
	Total	25		

Note: a. Posttest < Pretest

b. Posttest > Pretest

c. Posttest = Pretest.

Table-3. Test statistics^a.

		After the second intervention - Prior to the interventions
Z		-3.315 ^b
Asymp. Sig. (2-tailed)		.001

Note: a. Wilcoxon Signed-ranks Test

b. Based on negative ranks.

Table 4 indicates that initially, there were two participants with low awareness, six participants with medium awareness and 17 participants with high awareness. Following the first intervention, there was one participant with low awareness, 12 participants with medium awareness and 12 participants with high awareness. After the final intervention, there were 18 participants with high awareness and seven participants with medium awareness.

Table-4. Frequency of respondents for overall mean.

Level of Awareness	Prior to the intervention	After the first intervention	After the second intervention
High	17	12	18
Medium	6	12	7
Low	2	1	0

Source: Participants' questionnaire.

4.2. Means of the three MARSIR Subscales

Table 5 shows the results of the mean of each subscale in the MARSIR instrument. For the subscale of Global Reading Strategies, the overall mean of the participants was 3.26. After the first intervention, the overall mean of this subscale dipped slightly to 3.25, and after the second intervention, the mean rose to 3.77.

Table-5. Mean scores of each subscale of the three surveys.

	Prior to the interventions		After the first intervention		After the second intervention	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Global Reading Strategies	3.26	0.61	3.25	0.73	3.77	0.57
Problem-Solving Strategies	3.66	0.59	3.59	0.78	4.16	0.62
Support Reading Strategies	3.55	0.74	3.65	0.69	3.96	0.66

Source: Participants' questionnaire.

There was a similar drop for the other two subscales after the first intervention. For Problem-solving Strategies, the mean of the participants was 3.66 at first, then 3.59, and finally, it went up to 4.16. As for the last subscale of Support Reading Strategies, the mean of the first survey was 3.55, while the mean from the second survey was 3.65, and the last mean was 3.96.

Analysed according to the three subscales as shown in Table 6, prior to the interventions, there were seven participants with high awareness of Global Reading Strategies, 16 participants with medium awareness, and two with low awareness. After the first intervention, the number of participants with high awareness was 10. 11 participants reported having medium awareness, and four participants had low awareness. The final survey showed that 17 participants stated they had high awareness, while eight had medium awareness. As for Problem-solving Strategies, at first, 18 participants had high awareness, six had medium awareness, and one had low awareness. Then, 11 of them reported having high awareness, 12 had medium awareness and two had low awareness. At the end of the interventions, 21 participants reported having high awareness and four reported having medium awareness of this subscale. As for the last subscale, Support Reading Strategies, the first survey revealed that 14 participants had high awareness, eight had medium awareness and three had low awareness. After the first intervention, 14 participants had high awareness and 11 had medium awareness. The last survey showed that 17 participants had high awareness and eight participants had medium awareness.

Table-6. Frequency of respondents for each subscale.

Global Reading Strategies			
Level of Awareness	Prior to the intervention	After the first intervention	After the second intervention
High	7	10	17
Medium	16	11	8
Low	2	4	0
Problem-solving Strategies			
Level of Awareness	Prior to the intervention	After the first intervention	After the second intervention
High	18	11	21
Medium	6	12	4
Low	1	2	0
Support Reading Strategies			
Level of Awareness	Prior to the intervention	After the first intervention	After the second intervention
High	14	14	17
Medium	8	11	8
Low	3	0	0

Source: Participants' questionnaire.

5. DISCUSSION

The research was carried out with the aim of investigating the effects of metacognitive reading strategies instruction on reading comprehension. The results highlight the fact that the teaching of metacognitive reading strategies enhances students' reading comprehension. This finding resembles the findings of the study conducted by Albazi and Shukri (2016); Henter (2012); Hou (2015) and Takallou (2011) that those who received instruction had better overall means of metacognitive reading strategies in the post-test. Nonetheless, even if there is no significant difference in the means in the post-test, it does not mean that the participants do not benefit from the instruction. As seen in the study by Kutluturk and Yumru (2017), there was not a significant difference between the pre-test and post-test of the survey; however, an analysis of the participants' diaries, semi-structured interviews and observations reveals that they did use metacognitive strategies to aid their reading. Thus, it can be said that one's metacognition can be enhanced through implicit or explicit instruction in the classroom (Peteranetz, 2016).

According to Pearson (1985), one of the considerations that a teacher needs to regard as important alongside the students' prior knowledge, the assignment, and the classroom setting, is their strategies. Previous studies have demonstrated that excellent readers are equipped with strategies which they aptly use (Sidek, 2010). Poor readers need to know what they lack, so that they too can make progress. With better awareness of metacognitive reading strategies, students become empowered and are able to take steps before, during and after reading to help themselves gain a better understanding of a text. This is especially helpful when learning a second language (McKeown & Gentilucci, 2007). Malaysian English language teachers could enlighten their charges with metacognitive reading strategies, as studies have shown that primary school students seem to have the most difficulty in understanding a text, while their secondary counterparts do not know the process for reading (Chandran & Shah, 2019; Ghaffar & Aziz, 2019). Although inconclusive, there is some research that shows higher awareness of metacognitive reading strategies is linked to better reading scores among those who study English as a second or foreign language (Batang, 2015; Guo, 2018).

6. CONCLUSION

The current study explored whether metacognitive reading strategies instruction could enhance reading comprehension. The findings demonstrated that the answer to this question is in the affirmative. In light of this, teachers teaching English as a Second Language (ESL) could take note of their students' knowledge of the metacognitive reading at the beginning of the semester and check on their understanding and practice of those strategies periodically throughout the semester. Apart from that, teachers could consider the instruction of metacognitive reading strategies as a useful resource and integrate it into the teaching of reading comprehension by modelling those strategies and giving students ample opportunities for guided and independent practice. By doing so, students are prepared to take on any printed materials, and this will make them independent readers.

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