

The Employment of Metacognitive Reading Strategies by International High School EFL Learners

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Abstract: The primary objective of this study is to examine the frequency of metacognitive reading strategies (MRS) usage among international high school students and determine whether there are variations in the strategy usage based on their nationalities. To achieve this, the researcher used a literature-based questionnaire with specific reference to Tabaran et al. (2004). The metacognitive reading strategies questionnaire was administered to middle-aged, upper-intermediate-level students from five private international schools in Istanbul Turkey, with an average age of 17 years old. Surprisingly, the findings revealed a high awareness and implementation of MRS among the participants. However, the analysis of the independent sample t-test demonstrated no significant disparities in MRS usage between or within the groups based on the variable of nationality, indicating that students' cultural backgrounds had no discernible impact. Therefore, it can be concluded that exposing learners to the same curriculum may mitigate potential differences in the application of MRS.

Keywords: Metacognitive strategies, Reading, International students, EFL.

1. INTRODUCTION AND BACKGROUND

In recent years, researchers and educators have made efforts to support students in developing their reading strategies and enhancing their comprehension skills. Consequently, teachers have been held responsible for improving their students' reading comprehension by increasing their awareness of their own reading processes. As a result, there has been a particular emphasis on teaching MRS to students. According to Barnett (1988, as cited in Kasimi, 2012), learners who utilize reading strategies experience an improvement in their level of comprehension. Mokhtari and Reichard (2004) argued that learners tend to employ specific strategies to attain targeted academic objectives. Therefore, it is incumbent upon teachers to identify the specific strategies that EFL learners require to overcome reading challenges effectively.

Reading strategies play a crucial role in enabling learners to understand and engage with the world around them, as well as gain self-awareness, allowing them to reflect upon and respond to the texts they encounter (Tierney, 2005, as cited in Karbalaei, 2010). Consequently, teachers carry an increased responsibility to assist and guide young students in developing an early awareness of these strategies and supporting their application during reading activities. It is important to acknowledge that integrating these strategies into learners' thinking skills and competences is a gradual process that requires time for them to fully internalize such strategies. The significance of reading strategies is further emphasized by the extensive focus on them in English Language Teaching (ELT) research and studies (Ismail & Tawalbeh, 2014). Specifically, MRS receive considerable attention as they contribute to fostering proficient readers, critical thinkers, and lifelong learners.

Despite the extensive research conducted on MRS and the various factors that may impact their utilization among EFL learners, there appears to be a notable gap in the existing literature. To the best knowledge of the researcher, no prior study has investigated the implementation of MRS specifically among students in private international high schools; nor examined potential differences in strategy usage based on students' nationalities. Therefore, the primary objective of this study is to determine whether young adults and middle-aged students attending private international schools employ MRS and to explore the potential influence of nationality on the utilization of these strategies. Moreover, this study replicates Kasimi's work titled "Cognitive and metacognitive strategies employed by Iranian and Turkish EFL readers" in 2012.

2. LITERATURE REVIEW

2.1 Metacognition

Metacognition, a concept created and introduced by Flavell in the mid-1970s, is widely acknowledged as a fundamental construct in cognitive psychology. Flavell is recognized as the progenitor of metacognition. Hall and Burke (2004) provide a comprehensive definition of metacognition, describing it as the learners' capacity to reflect on and evaluate their own thinking processes during the learning experience which is often referred to as "thinking about thinking". Garner and Alexander (1989) further define metacognition as having awareness or understanding of one's own knowledge or cognitive processes. Additionally, Jacob and Paris (1987) propose that metacognition comprises two distinct dimensions: metacognitive knowledge and metacognitive regulation. Metacognitive knowledge pertains to learners' accumulated understanding of their own goals, comprehension, tasks, and performance. These conceptualizations of metacognition have been widely referenced in research (Flavell, 1979, as cited in Ceylan and Harputlu, 2015; Schraw et al., 2006).

Metacognition plays a pivotal role in achieving success during the formal operational stage, typically associated with adolescents who are older than 11 years old, as initially proposed by Piaget. At this stage, adolescents exhibit the capacity for abstract thinking; and engagement in mental processing that transcends concrete operations. Hall and Burke (2004) assert that teachers and educators, if equipped with appropriate training, can devote time to fostering the learning and studying processes, particularly by cultivating metacognitive thinking strategies. This, in turn, aids students in developing their own metacognitive knowledge. Consequently, Vanairdale and Canedo (2011) argue that emphasizing the instruction of metacognitive strategies to learners and guiding them to think critically and reflect on their thinking can yield more proficient readers. These readers can select appropriate strategies and effectively applying them, thereby enhancing comprehension across various texts. It is widely recognized that the overarching aim of metacognition researchers is to empower learners to become skilled readers who can excel academically.

2.2 Metacognitive Reading Strategies

In the past decades, extensive research in reading has been conducted to examine effective approaches to support learners' awareness and utilization of MRS, thereby fostering their development as proficient readers and independent thinkers. A significant portion of these studies has focused on enhancing EFL learners in becoming successful readers and comprehending academic materials. But what does the term "strategy" entail? According to Karbalaei (2010), a strategy is an individual's personal approach to a task, encompassing their cognitive processes and behaviors when planning and evaluating their study habits. Furthermore, Salataki and Akyel (2002) assert that MRS encompass the learners' awareness and ability to regulate or monitor their cognitive strategies. These strategies are centered on the idea of metacognition, which entails reflecting on one's own thinking processes. They encompass deliberate, purposeful, and forward-thinking mental activities aimed at effectively accomplishing cognitive tasks and aiding in the achievement of cognitive objectives (Hall & Burke, 2004).

Sheorey and Mokhtari (2001) conducted a study to explore the differences in the utilization of metacognitive and comprehension-based reading strategies between L1 and ESL university students. The researchers discovered that both L1 and ESL students, exhibited similarly high levels of various reading strategies. Irrespective of their profession and gender, they assigned similar levels of importance to the categories of strategies examined in the study. Moreover, Salataki and Akyel (2002) conducted a study to assess the effectiveness of teaching metacognitive strategies in both L1 and L2 among Turkish students through explicit training on MRS. The researchers discovered that providing clear and specific instruction positively influenced EFL learners' overall utilization of strategies.

Furthermore, Çubukçu (2008) conducted a study to examine the influence of teaching various types of MRS to EFL learners. These strategies included evaluating, leveraging personal strengths, inferring meaning, searching for target information using prior knowledge, distinguishing between new and familiar information, assessing difficulty, checking comprehension, and making predictions about upcoming content. Following a five-week training period, the researcher observed variations between the experimental and control groups, indicating the beneficial effects of teaching MRS.

In addition, Razi (2010) developed a training program known as ME-TARESTRAP, which aimed to teach MRS to both preparatory and English Language Teaching department students. The program's findings, as cited in Kasimi (2012), demonstrated a significant positive impact of effectively employing MRS on the participants' development as proficient readers. Furthermore, İsmail and Tawalbeh (2015) conducted a study to investigate the effects of MRS on EFL poor readers. The study's results indicated that training low-achieving EFL readers in MRS improved their reading comprehension performance.

Moreover, Mokhtari and Reichard (2004) investigated the variation in the perception and frequency of MRS use among American and Moroccan students when engaging with academic reading texts. The results indicated that the participants from both groups demonstrated nearly identical awareness of strategy use. However, Moroccan readers showed a higher frequency of employing specific types of strategies.

Furthermore, Kutluturk and Yumru (2017) conducted a study focusing on enhancing freshmen's reading skills through training on cognitive and metacognitive strategies. The objective was to investigate the quantity and types of reading strategies employed by the participants for text comprehension, as well as the extent to which the use of these strategies increased after training. The results of the pre- and post-test revealed that the participants demonstrated moderate to high levels of utilizing MRS. They reported that there was no significant difference observed in the utilization of these strategies after the training, despite the participants' confirmation of being trained in cognitive and MRS.

In addition, Sariçoban (2002) investigated the strategies employed by proficient and less proficient EFL learners during the three stages of the reading process: pre-reading, while reading, and post-reading. The study took place in a preparatory class at Hacettepe University in Turkey. The participants completed a strategy usage inventory and took an achievement test. The study's results highlighted notable differences in the reading strategies utilized by proficient and less proficient readers. These insights hold significance for educators as they offer valuable guidance on promoting students' comprehension skills. Specifically, the findings underscore the importance of encouraging students to approach a text focusing on overall comprehension before analyzing smaller components. Teachers can effectively enhance their students' reading abilities by emphasizing this approach.

Research Questions

The objective of this current research was to address the following questions:

1. What is the frequency of MRS use among international high school students?
2. Are there any differences in the utilization of MRS among the participants based on their nationality?

3. METHODOLOGY

3.1 Participants

Initially, the study comprised a total of 83 high school students who completed the questionnaires. However, six questionnaires were not completed so they were eliminated. Thus, the final sample size consisted of 77 participants, 37 (48.1%) individuals were females, while 40 (51.9%) participants were males. This indicated a relatively equal representation of both genders within the study population. These students were selected randomly from 10th (45.8%), 11th (25.3%), and 12th (28.9%) grades in five international high schools located in Istanbul_Turkey. It is noteworthy that the participants were of Arab descent, resulting in a significant number of students originating from various Arabic-speaking countries. Also, the average age among participants was 17 years. Furthermore, their English language exposure spanned from one to twelve years, corresponding to the duration of their enrollment in international schools. Although the participants represented different Arabic nationalities, the majority of them hailed from Yemen, Syria, and Egypt. Since the study was conducted in schools owned by individuals from these specific nationalities, represented such nationalities.

3.2 Instrument

In this study, the researcher utilized the Metacognitive Reading Strategies Questionnaire (MRSQ) developed by Tabaran et al. (2004). The MRSQ is a self-report questionnaire consisting of 22 items that were developed to measure the frequency of MRS usage. The questionnaire was available in English and Arabic to accommodate the participants. These 22 items were further divided into four domains: evaluating and monitoring, inferencing, and anticipating, highlighting, and underlining, and repeating and using prior knowledge. Detailed information regarding the categorization of these questions can be found in Tables 5, 6, 7, and 8.

3.2.1 Instrument Reliability.

Cronbach's alpha test was utilized by the researcher to evaluate the consistency and reliability of the research instrument. This statistical measure assesses the internal consistency of the items in the instrument, indicating the extent to which they measure the same construct. The reliability results obtained from the Cronbach's alpha test are presented in Table 1. This table provides a summary of the alpha coefficients for each subscale used in the study, indicating the degree of reliability for the corresponding measures. The higher the alpha coefficient, the greater the internal consistency and reliability of the instrument, suggesting that the items in the instrument are measuring the intended construct consistently.

Table (1): Cronbach's alpha coefficient value of the Instrument

1	All MRS in the questionnaire	0.88
2	Evaluating and monitoring	0.80
3	Inferencing and anticipating	0.60
4	Underlining and highlighting	0.57
5	Repeating and prior knowledge	0.66

The findings indicate a high level of internal consistency for all the statements in the questionnaire, as evidenced by a Cronbach's coefficient of 0.88, surpassing the adopted threshold of 0.60 for comparison. Furthermore, the stability coefficient of the questionnaire dimensions demonstrated a high stability ratio, exceeding the minimum level of 0.60 set for comparison. This indicates that the sample respondents' responses towards the items and dimensions of the questionnaire are stable.

3.3 Procedures

The researcher established contact with the administration of the five international schools in Istanbul, explaining the purpose of the study. However, only two schools showed willingness and cooperation to allow the study to be conducted within their premises. As for the remaining three schools, the researcher directly approached the students and their parents with whom she had prior acquaintance. Both the schools' administration and the parents aided in distributing the questionnaires among the students in April 2022. The students then reported their frequency of using the specified strategies through the questionnaire. To analyze the collected data, the SPSS program version 20 was utilized, and the data were entered into the computer using a Likert five-scale.

Various statistical methods were employed in this study. Firstly, Cronbach's alpha coefficient was used to assess the reliability of the study sample. This coefficient helps determine the internal consistency of the data. Secondly, descriptive statistics, including frequencies, percentages, means, and standard deviations, were employed to summarize and analyze the collected data. These measures provide valuable insights into the distribution and characteristics of the variables under investigation. Lastly, the t-test was utilized to compare means between different groups. Both independent and paired samples were analyzed using this test, allowing for a comprehensive examination of any significant differences. Together, these statistical methods provide a robust framework for analyzing and interpreting the data in this study.

4. RESULTS AND DISCUSSION

4.1 Results of the First Research Question

1. What is the frequency of MRS use among the international high school students participating in this study?

In this section, the researcher classified the questionnaire's items into four distinct dimensions. These dimensions were categorized as follows: 1) evaluating and monitoring, 2) inferring and anticipating, 3) highlighting and underlining, and 4)

repeating and using prior knowledge. In addition, the researcher employed means, standard deviations, and relative importance to analyze the dimensions and the questionnaire' items, which encompassed assessment and monitoring. These statistical measures were utilized to gain insights into the evaluation and tracking aspects of the questionnaire.

Table 2: Mean and Percentages of the Evaluating and Monitoring Domain

	Mean	SD	Rank	Percentage	T	Sig	Frequency
11.exploit personal strength	3.65	1.178	2	73	4.835	0.027	usually
12.note readability of text	3.62	1.377	3	72.4	3.973	0.004	usually
13.evalaute text contribution	3.18	1.305	7	63.6	1.222	0.000	sometimes
14.reconsider and revise prior questions	3.32	1.332	5	66.4	2.139	0.000	sometimes
17.distinguish new and existing info	3.88	1.298	1	77.6	5.972	0.225	usually
18.evaluate goals	3.22	1.392	6	64.4	1.392	0.036	usually
3.check predicted info	3.32	1.261	5	66.4	2.259	0.000	usually
4.search out info relevant to goals	3.45	1.323	4	69	3.014	0.168	usually
Average	3.45				69%		
SD	0.24						

Table 2 presents the average responses of the participants regarding their utilization of metacognitive reading strategies in the evaluating and monitoring dimension. The results indicate that the participants rated the item "distinguishing new and existing information" with a high mean score of 3.88, indicating a strong inclination to employ this strategy. Similarly, the item "evaluating text contribution" received a mean score of 3.18, indicating a relatively high utilization level. Additionally, the frequency of using MRS in this dimension exceeded the hypothetical mean of 3.00, suggesting that participants employed these strategies more frequently than expected.

Table 3: Mean Scores of the Inferencing and Anticipating Domain

	Mean	SD	Rank	Percentage	T	Sig	Frequency
10.consider interpretation	3.19	1.298	5	63.8	1.317	0.000	sometime
16.Figure out meaning of critical words	4.01	1.198	1	80.2	7.423	0.192	usually
19.Visualize description	3.90	1.231	3	78	6.388	0.000	usually
21.predict how to use knowledge	3.25	1.319	4	65	1.641	0.000	sometime
22.predict next info	3.09	1.349	6	61.8	.591	0.105	sometime
1.use context to infer meaning	4.00	.987	2	80	1.317	0.556	usually
Average	3.57				%71.4		
SD	0.44						

Table 3 provides insights into the participants' proficiency in utilizing MRS categorized as inferencing and anticipating. The results reveal that the participants showed a strong awareness and competence in employing these strategies. Specifically, they demonstrated a high utilization level in "determining the meaning of critical words" with a mean score of 4.1. However, "anticipating next information" strategy was slightly less utilized, with a mean score of 3.9. Nonetheless, it is important to note that the participants' usage of both strategies surpassed the hypothetical average of 3.00, indicating their effective engagement in employing these MRS. Overall, the findings highlight the participants' heightened awareness and proficiency in utilizing inference and anticipation strategies during their reading activities.

Table 4: Mean Scores of the Highlighting and Underlining Domain

	Mean	SD	Rank	Percentage	T	Sig	Frequency
2.Use margins for notes	2.95	1.327	3	59	-.344	0.732	sometime
5.Underline to remember	3.68	1.312	2	73.6	4.516	0.000	usually
Underline and highlight important info	3.95	1.366	1	79	6.091	0.000	usually
Average	3.53					70.6%	
SD	0.52						

The findings presented in Table 4 indicate that the participants exhibited a strong inclination to employ highlighting and underlining strategies with a high frequency. Among these strategies, the participants predominantly utilized the technique of "underlining and highlighting important information" (M=3.95). However, it is worth noting that the strategy of "margins for notes" received relatively less utilization (M=2.95), being the least used strategy by the participants in this study. The mean score of 2.95 for this strategy falls below the benchmark of 3.00, suggesting a lower frequency of implementation. These results shed light on the participants' preference for highlighting and underlining as effective MRS while also highlighting a relatively lower reliance on notetaking in the margins.

Table 5: Mean Scores of the Repeating and Prior Knowledge Domain

	Mean	SD	Rank	Percentage	T	Sig	Frequency
7.make notes to remember	3.25	1.378	5	65	1.571	0.120	Sometime
9.read more than once to remember	3.62	1.246	3	72.4	4.389	0.000	Usually
15.reconsider and revise background knowledge	3.52	1.210	4	70.4	3.768	0.000	Usually
20.reread for better comprehending	4.25	1.078	1	85	10.149	0.000	Usually
Average	3.68					73.6%	
SD	0.37						

Table 5 demonstrates that the participants exhibited a significant propensity for utilizing MRS categorized as "repeating and prior knowledge". Among these strategies, the participants demonstrated a higher frequency of employing the technique of "rereading for better comprehension" (M=4.25), implying strong inclination to revisit the text to enhance their understanding. On the other hand, the participants used the strategy of "making notes to remember" relatively less (M=3.25). Although this strategy was employed with a slightly lower frequency, it still exceeded the hypothetical mean of 3.00. These findings highlight the participants' recognition of the value of repetition in improving comprehension, while also indicating a moderate reliance on notetaking to aid in information retention.

Table 6: One Sample T-test Toward Inferencing and Anticipating

	means	Hypothetical means	T test	values	sig
Evaluating and monitoring	3.45	3	4.746		0.000
Inference and anticipation	3.57	3	6.902		0.000
Underling and highlighting	3.53	3	4.264		0.000
Repetition and prior knowledge	3.68	3	7.396		0.000

In Table 6, the researcher employed a one-way analysis of variance test to examine the average responses of the sample members regarding their usage of MRS through different dimensions: evaluating and monitoring, inferencing, and anticipating, highlighting, and underlining, and repeating and using prior knowledge among international high school students. The results revealed that the average responses for each dimension were 3.45, 3.57, 3.53, and 3.68, respectively. These averages were significantly higher than the hypothetical average of 3, indicating a statistically significant difference.

The statistical significance was confirmed through a t-test for one sample, where the obtained p-value was 0.00, which is lower than the significance level of 0.05. This indicates a strong statistical significance of the dimension. Therefore, it can be concluded that there is a statistically significant agreement among the average responses of the study participants towards the dimension of inferencing and anticipating. The findings further suggest that the participants demonstrated a significant level of competence in utilizing MRS related to inferencing and anticipating as evidenced by their consistently higher average responses in this dimension.

4.2 Results of the Second Research Question

2. Are there any differences in the utilization of MRS among students based on their nationality?

Table 7: Participants' Use of Metacognitive Reading Strategies - Independent Sample t with Reference to their Nationality

ANOVA			Sum of Squares	Df	Mean Square	F	Sig.
Metacognitive reading strategies	Evaluating and Monitoring	Between Groups	9.287	11	.844	1.215	0.295
		Within Groups	45.170	65	.695		
		Total	54.457	76			
	Inference and Anticipation	Between Groups	6.087	11	.553	1.048	0.417
		Within Groups	34.329	65	.528		
		Total	40.416	76			
	Highlighting and Underlining	Between Groups	9.117	11	.829	.680	0.752
		Within Groups	79.200	65	1.218		
		Total	88.317	76			
	Repetition and Prior knowledge	Between Groups	11.729	11	1.066	1.833	0.066
		Within Groups	37.811	65	.582		
		Total	49.541	76			

The researcher employed the statistical analyses of ANOVA (Analysis of Variance) and independent sample t-tests to examine potential variations in the average responses of the participants across different dimensions. Table 7 presents the obtained results, specifically focusing on the dimensions of evaluating and monitoring, inferencing, anticipating, highlighting, and underlining, and repeating and using prior knowledge, with respect to the participants' nationality. The calculated F values for these dimensions were (0.295, 0.417, 0.752, and 0.066), respectively, indicating that there were no statistically significant differences observed at a significance level of 0.05. These findings suggest that the average responses of the participants towards the dimensions examined in the study do not vary significantly based on their nationality. Hence, the nationality of the participants does not appear to significantly influence their utilization of metacognitive reading strategies within the evaluated dimensions.

The primary objective of this study was to investigate the utilization of MRS among international high school students in grades 10, 11, and 12. Despite being considered middle-aged students, the participants displayed a remarkably high level of awareness in employing the MRS. The researcher employed a questionnaire comprising of 22 items, which were categorized into four dimensions: evaluating and monitoring, inferencing and anticipating, highlighting and underlining, and repeating and using prior knowledge. The mean scores for each dimension were 3.45, 3.57, 3.53, and 3.68, respectively. These mean scores exceeded the hypothetical value of 3.00, indicating a strong inclination among the participants to engage in strategies that activate their prior knowledge. Furthermore, the analysis of the results highlighted the participants' strong tendency to utilize strategies that facilitate the activation of their prior knowledge. Specifically, the participants demonstrated a frequent use of strategies such as making notes to aid in retention, engaging in repeated readings to enhance memory, re-examining and revising their background knowledge, and engaging in rereading for improved comprehension. These strategies were identified as key methods employed by the participants to effectively activate their prior knowledge and enhance their understanding of the reading material. These findings highlight the participants' strategic use of MRS aimed at effectively activating their prior knowledge and improving their overall comprehension of the reading material. The strategy of "rereading for better comprehension" received the highest mean score of 4.25, while the strategy of "using margins for notes" had a relatively lower mean score of 2.95, implying its less frequent usage among the participants.

Furthermore, the results of the study indicated that the frequency of MRS usage among the participants surpassed the initial expectations. This finding suggests a heightened awareness among teachers regarding the importance of teaching reading strategies to their students. Moreover, the international schools participated in this study adopted either the educational system of the United Kingdom (UK) or the United States (US), which consequently led to the integration of pedagogical principles derived from these respective systems. Consequently, teachers employed a variety of instructional approaches including reading workshops (such as reading aloud, independent reading, and shared reading), writing workshops

(involving guided writing, shared writing, and interactive writing), as well as spelling and grammar exercises within literacy courses. These findings align with the previous research in the field which has demonstrated that students studying English-related disciplines, such as Literature, Linguistics, and English Language Teaching (ELT), tend to outperform their peers in other fields in terms of their utilization of reading strategies (Mochizuki, 1999; Peacock & Ho, 2003; Rong, 1999; Bećirović et al., 2017). Additionally, the participants in this study exhibited an upper-intermediate level of English proficiency, further supporting their heightened awareness and utilization of MRS as EFL middle-aged readers. Consequently, it can be inferred that greater proficiency in a second language contributes to more successful reading, thereby explaining the participants' elevated awareness and utilization of MRS.

In addition, the research findings indicated a lack of variation in the usage of MRS among the participants based on their nationalities. This unexpected result contradicts the previous studies that have suggested variations in the utilization of these strategies among individuals from different nationalities and culturally diverse backgrounds (Alhaqbani & Riazi, 2012; Kasimi, 2012; Karbalaei, 2010).

One potential explanation for this finding is that the international schools which adopted either the UK or USA curricula adhere to similar instructional approaches that facilitate the development and utilization of MRS among diverse student populations

5. CONCLUSION

Based on the results of this study, it was evident that the participants exhibited a high frequency of utilizing MRS. This finding holds implications for educators who may consider integrating these strategies into their reading materials for learners across different age groups, including young, adolescent, and adult learners. Implementing MRS in instructional practices can potentially contribute to the learners' progress in reading comprehension (Anderson, 2002; Mokhtari & Reichard, 2004; Alhaqbani & Riazi, 2012; Kutluturk & Yumru, 2017).

Additionally, the study findings indicated no significant differences in the usage of these strategies among international school students based on their nationalities. This suggests that the variations in the adoption of MRS among learners are more likely influenced by teaching approaches and educational systems rather than learners' nationalities or cultural backgrounds (Sheorey & Mokhtari, 2001; Salataki & Akyel, 2002; Bećirović et al., 2017).

However, it is important to acknowledge the limitations encountered during the study. It was noteworthy that certain school principals declined to distribute the study questionnaire among their students, potentially introducing an impact on the sample size and representativeness of the findings. Consequently, it is important to acknowledge that the results of this study can only be generalized to the specific study population under investigation. Moreover, some participants appeared to have approached certain questionnaire items less seriously, highlighting the importance of complementing the study with interviews to gather the participants' opinions and experiences related to the usage of MRS. Conducting interviews would provide valuable insights and authentic examples from the participants' academic reading experiences, enhancing the overall understanding of MRS implementation.

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