

Influence of Reading Strategies on ESL Students' Reading Comprehension in Secondary Schools in Malé, Maldives

Aminath Naushan¹, Subashini K Rajanathan², Aniyath Ali¹, & Dheebea Moosa¹

¹ Kulliyah of Education, Islamic University of Maldives, Maldives

² Teaching and Learning Centre, INTI International University, Nilai, Negeri Sembilan, Malaysia

Correspondence: Subashini K Rajanathan, PhD, Inti International University, Persiaran Perdana BBN, Putra Nilai, 71800 Nilai, Negeri Sembilan, Malaysia. E-mail: subashini.rajan@newinti.edu.my

Received: July 25, 2023

Accepted: October 10, 2023

Online Published: December 15, 2023

doi:10.5430/wjel.v14n1p492

URL: <https://doi.org/10.5430/wjel.v14n1p492>

Abstract

The use of reading strategies plays an integral part in the reading comprehension level of students. However, English as a Second Language (ESL) learners are unaware of the impact of reading strategies on their reading comprehension level. Moreover, teachers also lack a solid foundation for teaching reading strategies to students and are unable to understand the reading strategies preferences of the students. Only a few studies have been conducted highlighting the significance of reading strategies on students' comprehension levels, especially in the context of Maldivian secondary schools. The main objective of this study is to identify the use of reading strategies to improve the reading comprehension level of ESL learners in secondary school. This research employed an experimental design. A total of 118 students from grades 9 and 10 from a secondary school participated in the study. Two instruments were utilized to collect data: a questionnaire, a pre-test, and a post-test. Statistical analysis revealed a strong positive correlation between reading strategies and comprehension achievement. Moreover, a significant difference in strategy use was found between male and female students. Recommendations include implementing school-wide reading programs, using think-aloud technique to model strategies, and consistent teacher training in Maldives as well as monitoring of students' reading strategies to improve comprehension and learning opportunities.

Keywords: Reading strategies, reading comprehension, ESL, secondary school

1. Introduction

The process of teaching language is intricate due to the fusion of both explicit elements, such as language rules, principles, and teaching theories, and tacit elements, which involve the teacher's lifetime experience of naturally using the language and all its nuances (Bryce, 2022). As a crucial skill, reading plays a significant role in supporting learners across various academic domains. It is an essential life skill that each learner should master to be able to perform well academically (Pradani 2021). Ningsih, Winarni, and Roemintoyo (2019), add that the mastery of reading skills is important in the 21st century. Reading is also one of the challenging areas for most second-language learners (Küçükoğlu, 2013; Yukselir, 2014).

1.1 Reading Comprehension

Reading comprehension is the process whereby readers make meaning from the text using several reading skills. Elleman and Oslund (2019) state that reading comprehension is one of the most difficult cognitive activities to teach, measure, and research. The role of reading comprehension is integral in learning English as a second language. Jannah and Syahropi (2022) highlight that students' lack of ability to comprehend the material makes it difficult for them to understand the text's meaning and context. Various elements impact students' reading comprehension abilities, including vocabulary, reading strategies, interests, and genre, as noted by Banditvilai (2020) and Huyen (2022).

The use of reading strategies is one of the significant factors that have an impact on ESL learners' reading comprehension. The successful comprehension of texts by language learners does not occur automatically and frequently, it depends on learners' use of reading strategies and their awareness of strategies (Banditvilai, 2020). A reader becomes an active participant in creating an interaction with the writer of the text by predicting, analyzing, summarizing, and using other reading strategies (Ali & Razali, 2019). A strategic reader is aware of the effectiveness of the reader's comprehension of reading goals and the use of various strategies to improve comprehension of difficult texts (Grabe, 2009). Strategic readers use reading strategies more frequently than unsuccessful readers.

In the Maldivian school context, the students' use of reading strategies would be significant for their reading comprehension. As the students prepare themselves for international exams, such as GCE O' Level and IGCSE, they need to know the usage of these strategies to understand the comprehension of texts better. However, some students are not aware of these strategies that assist them in understanding the texts easily. Students' lack of knowledge and inability to use the reading strategies become a disadvantage for them and they lag in comprehension than the students who are aware of the strategies (Nurmalasari, 2021). In addition, ESL learners have difficulties when taking English exams as they cannot comprehend the texts and understand the importance of what they are reading to pass the exam (Chandra et al., 2019). The

learners are unable to understand the vital connection between their use of reading strategies and their performance. Teevno and Raisani (2017) state that the use of various reading strategies has a significant impact on the performance of the learners. Therefore, ESL learners need to be aware of the reading strategies and understand the importance of them in their performance.

Recent research focusing on the stressors experienced by secondary school students revealed a range of school-related stress factors. These stressors encompassed academic struggles, difficulty in maintaining focus, excessive homework load as well as challenges arising from learning English as a second language (Wider, 2023). Despite the critical educational implications of this issue, it has received limited attention in the context of Maldives. As a result, this study aims to investigate the meaningful correlation between the use of reading strategies by English as a Second Language (ESL) learners and their reading comprehension achievement, while considering the influence of gender.

There is a huge body of research (Banditvilai, 2020; Cekiso, 2012; Gilakjani & Sabouri, 2016; Kermani & Khabir, 2017; Medina, 2012; Rastegar, Teevno & Raisani, 2017; Yukselir, 2014) on the relationship between reading strategies and reading comprehension. According to Yukselir (2014), learners use different types of reading strategies to acquire, store, and collect information. As a result, the use of reading strategies enables learners to understand a task and the steps they take if they do not comprehend what they read. Research done to gain more insight into the relationship between the use of reading strategies and reading comprehension showed that appropriate reading strategies were useful for foreign language learners as they improved the reading comprehension of the learners (Gilakjani & Sabouri, 2016; Medina, 2012). Additionally, Banditvilai's research (2020) showed that reading techniques improve students' reading comprehension because they foster positive attitudes about the tactics and enable them to better understand the content. Moreover, the study done by Cekiso (2012) to examine the contribution of reading strategy instruction to the reading comprehension and strategy awareness of Grade 11 ESL learners, indicated that a well-developed reading strategy instruction programme can have a strong positive effect on the participants' reading comprehension and reading strategies development. Moreover, the results from past studies (Rastegar, 2017; Sen, 2009) indicated that there was a statistically significant relationship between reading comprehension achievement scores and the use of reading strategies. Even though reading strategies help EFL learners comprehend the text better, knowing how to use these reading strategies does not make the students autonomous readers (Medina, 2012). In addition, a study by Teevno and Raisani (2017) showed that students are not consciously aware of how to apply and use reading strategies and teachers need to make them aware and guide them in using the reading strategies. This suggests that although the reading strategies have a positive impact on reading comprehension and the performance of the learners, it is necessary to guide students to become autonomous readers.

1.2 Reading Strategies

Reading strategies play a very significant role in defining the learners' reading comprehension. Several studies done on this research area have shown a positive relationship between the use of reading strategies such as skimming and scanning, using prior knowledge and visualizing, and learners' reading comprehension level (Akhmetova, 2022, Mamun, 2023; Qanwal, 2014).

1.2.1 Skimming and Scanning

Skimming and scanning are some of the most frequently used reading strategies by learners. Several studies that have been conducted to identify the impact of skimming and scanning on students' reading comprehension showed that the skimming and scanning strategy was effective in improving students' reading comprehension (Asmawati, 2015; Diaz & Laguado, 2013; Fatmawati, 2014). The skimming and scanning strategy help the students to boost their reading speed together with comprehension (Abdullah, 2018). Research conducted by Setiawan (2019) indicated that skimming and scanning help to generate meaningful progress in students' reading comprehension. Similarly, a study conducted by Hastowoadi (2016) on analyzing the skimming and scanning technique to improve reading comprehension showed that the technique can enhance students' ability in reading skills and eventually improve students' performance. Furthermore, research conducted by Viteri (2020) has shown that skimming and scanning help students to be more self-confident, enhancing their reading skills, and creating a better classroom environment. However, as skimming and scanning involve reading quickly, the students tend to ignore the most important information as they scan just the basic information (Susanti, Sutarsyah & Kadaryanto, 2013). This implies that even though skimming and scanning are significant reading strategies in enhancing students' reading comprehension, teachers need to teach the students to use these strategies most appropriately.

1.2.2 Using Prior Knowledge

Another reading strategy used by the learners is using their prior knowledge while reading. The study conducted by Chen, Maarof, and Yunus (2016) showed that prior knowledge is an important reading strategy that improves comprehension by helping learners make connections with the text. Moreover, EFL learners can extract meaning from a text, which is based on a familiar topic to them, by using their prior knowledge (Behtary & Davaribina, 2013). In addition to this, the research by Abdelaal and Suse (2014) showed that there was a significantly high relationship between high prior knowledge and comprehension. However, an incorrect bit of prior knowledge, which is not corrected could hinder the students in understanding the text that they read (Svinicki, 2010). Also, the study conducted by Smith et al. (2021) revealed that prior knowledge does not moderate the relationship between comprehension and understanding the meaning of the text. This implies that correct prior knowledge helps the students understand the text better by making connections and getting meaning from familiar topics.

1.2.3 Visualizing

Visualizing is also a strategy that is practiced by the learners to comprehend reading texts. The impact of visualizing on the learners' reading comprehension was investigated by Gilakjani and Sabouri (2016). The results obtained from this study represented that visualizing helped to enhance the participants' reading comprehension. Dahle (2017) also stated that visualizing improved students' reading comprehension. Musdzal (2019) highlights that visualization is a useful way to go beyond the text as it helps the reader draw on prior knowledge for better comprehension of the text. Although visualizing is an effective reading strategy, moving beyond single-word images to sentence and paragraph images would be difficult without the regular practice of the strategy (Koning & Schoot, 2013). Therefore, regular practice of visualizing can help students to enhance their reading comprehension.

1.3 Gender Differences and Its Effect on Their Reading Strategy Use

Empirical studies have shown that male and female learners act differently in their use of reading strategies. A study from the United States by the National Assessment in Educational Progress (Junaid, 2015) showed that female students consistently performed better than male students. Oda (2017) found that the relationship between reading comprehension and gender showed similar results indicating that girls are better in reading comprehension, read more frequently, and have more positive attitudes towards reading than boys. Similar results were reported in a past study by Lee (2012) showing that the use of reading strategy by female students was higher than by male students. The use of reading strategies is less popular among male students because they have a lack of interest in reading (Junaid, 2015). While several research shows that female students use reading strategy more frequently compared to male students, there are also research findings that do not support this. Teevno and Raisani's (2017) research findings showed that there was no significant difference between male and female students in their use of strategies and impact on their reading performance. Several other studies also showed similar results (Asgarabadi, Rouhi & Jafarigohar, 2015; Abusaeedi & Khabir, 2017 & Bashir, 2021). The fact that research indicates greater and more effective use of reading strategies by female students and strategy use facilitates comprehension is reason enough to motivate male students to use reading strategies.

1.4 Conceptual Framework

The independent variables used for this study are the reading strategies which include skimming and scanning, using prior knowledge, and visualizing. The dependent variable is reading comprehension. One of the mediating variables that might affect the dependent variable is the age of the students. Age is an important factor that affects the reading comprehension level of the students. A study done by Vlachos and Papadimitriou (2015) showed that there is a significant effect of age on reading performance, with older children having better scores than younger ones for reading fluency, reading comprehension, and total reading performance. Moreover, reading strategies such as skimming and scanning, using prior knowledge and visualizing, can effectively contribute to enhancing the ability of the learners' reading comprehension (Zafarani & Kabgani, 2014). Figure 1 reflects the conceptual framework of this study.

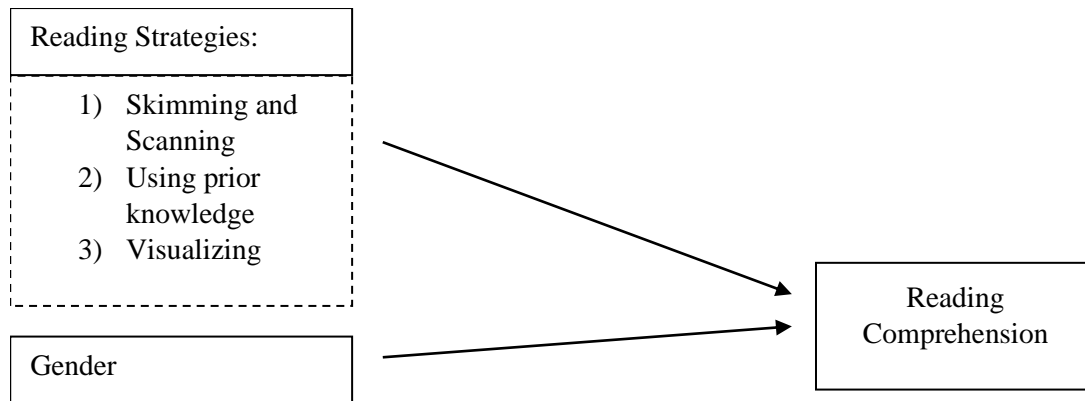


Figure 1. A Conceptual framework for reading comprehension and its factors

Adapted from: "English Reading Strategies and their Impact on Students' Performance in Reading Comprehension," by R.A. Teevno, and R.B. Raisani, 2017, Journal of Education & Social Sciences, 5(2), p.157.

2. Methods

2.1 Research Design

This study was conducted in one of the government secondary schools in Malé', Maldives. The design of the study was experimental wherein a pre-test-intervention- post-test approach was used. The participants were given a pre-test to identify their reading strategy use and reading comprehension achievement, then an intervention as reading strategy instruction was administered and later a post-test was given to identify the effect of the intervention on the variables. Data was analyzed through statistical procedures aimed to find out the relationship and significant differences between the variables.

2.2 Population and Sample

The population of this study were the students in grades 9 and 10 of a secondary school in Malé. The school was selected using convenience

sampling. The available population for the study was 170 students: 63 (31 males and 32 females) and 107 (53 males and 54 females) students in the Science and Business stream respectively. The sample size was calculated using an online sample size calculator for the population of 170 with a 95% confidence level and a margin error of 5%. The required sample size generated was 118. The students were selected using a stratified random sampling technique and the 4 strata identified were males, females, Science stream, and Business stream. The sample frame for the study was all the students from both streams. These students were divided into two groups by gender and numbered separately. Male and female students from the science stream were numbered from 1 to 31 and 1 to 32 respectively. Similarly, business stream students were numbered from 1 to 53 for males and 1 to 54 for females. As mentioned in the table above, the samples required for the study from each stratum were randomly selected by taking lots from the numbered lists. The data was analyzed to examine whether there exists any difference in the overall reading strategy used by gender. Table 1 summarizes the sample size required for each stratum.

Table 1. Population sample size

	Population total	Sample selected		
		Male	Female	Total
Science	63	22	22	44
Business	107	36	38	74
Total	170	58	60	118

2.3 Participants

The participants studied English from grade one until the secondary level. The students were selected from different academic levels such as lower, average, and higher level. The levels were determined from their results of the previous years. This was done because different levels of students will have different factors which will affect their comprehension level. From the calculated sample size, a total of 118 participants were successfully obtained.

2.4 Instruments

Two instruments were used to collect data for the study. They were reading comprehension tests and a Metacognitive Awareness of Reading Strategies Inventory (MARSİ) questionnaire. The reading comprehension tests were used to determine the reading comprehension level of the participants. Reading comprehension tests were given for pre-test and post-test. For the pre-test, a reading comprehension exercise and a note-making exercise taken from the Cambridge IGCSE English examination (Cambridge University Press and Assessment, 2019), were given to the participants. In the reading comprehension exercise, students were asked to read a text and answer eleven questions, and in the note-making exercise, students read a text and made notes for four headings. After the pre-test, a session was taken with the participants about reading strategies by the researcher as an intervention. A reading comprehension exercise and a note-making exercise were given for the post-test. These tests were also taken from the Cambridge IGCSE English examination (Cambridge University Press and Assessment, 2019). The reading comprehension tests given for the pre-test and post-test were similar.

MARSİ questionnaire was used to measure the level of reading strategy used by the participants. The questionnaire was created by Mokhtari and Reichard (2012) to assess the type and frequency of reading strategies that students perceive that they use while reading academic materials and other school-related materials in English. The questionnaire was adapted to include demographic information. The original questionnaire consists of 30 items that measure three factors such as Global Reading Strategies, Problem-Solving Strategies, and Support Reading Strategies (Guan, Roehrig, Mason & Meng, 2011). The students were asked to circle the number that best indicates their perceived use of the reading strategies described in the statement using a Likert scale ranging from 1 ('I never or almost never use this strategy') to 5 ('I always or almost always use this strategy'). The minimum and maximum possible scores for overall reading strategies are 30 and 150, respectively. Moreover, the minimum and maximum possible scores for Global, Problem Solving, and Support Reading Strategies are 12 - 60, 9 - 45, and 9 - 45. This means that, the higher the score, the higher the use of the strategies (Mokhtari & Sheorey, 2002). MARSİ has been widely administered in both ESL and EFL settings such as Hungary (Sheorey & Baboczky, 2008), Japan (Sheorey, Kamimura & Freirmuth, 2008), Bahrain (Malcolm, 2009), Iran (Kamran & Maftoon, 2012) and China (Pei, 2014).

MARSİ is a reliable measure of assessing the reading strategy used by students across grade levels with good content and face validity (Mokhtari & Reichard, 2012). Mokhtari and Reichard (2012) highlighted that MARSİ was able to maintain reliability coefficients (Cronbach alpha) between 0.89 to 0.93 across different grade levels from 6 to 12.

2.5 Data Collection Procedure

The participants were asked to fill out the MARSİ questionnaire and they received instructions on how to complete the questionnaire. Then, a pre-test was given to the participants. After the pre-test, a class session was administered to the participants about reading strategies by the researcher as an intervention. After a week, a post-test, which was a similar type of test as the pre-test, was given to the participants.

2.6 Data Analysis

The IBM Statistical Package for the Social Sciences (SPSS) Statistics version 22 was used for data analysis. The scales of measurement that were used for reading strategies were ratio scales. For research question 1, the independent and dependent variables were measured using continuous units and using ratio scales. The properties included in the ratio scale such as identity, magnitude, equal distance, and true zero helped to apply all the mathematical operations in data analysis. For research question 2, the independent variable was gender, and the dependent variable was reading strategies. The scale of measurement that was used for gender was nominal.

Before analyzing the data, a reliability coefficient was generated for the MARSJ questionnaire used in the study. The results of the reliability analysis are presented in Table 4.2. The questionnaire maintained its reliability ($\alpha = .866$) in this study as it had done with other published studies. The data was analyzed using inferential statistics including Pearson Correlation Coefficient and independent t-test. The independent t-test in this study provides statistical evidence to support the conclusion that there is a significant difference in the use of reading strategies between male and female ESL learners. This information contributes to a better understanding of gender-related patterns in reading strategy usage.

Consistent with the study's objectives, this research delves into whether a statistically significant correlation exists between the utilization of reading strategies by ESL learners and their reading comprehension achievements. Furthermore, it investigates the presence of substantial differences in the overall use of reading strategies among ESL learners with regard to gender and assesses whether discrepancies surface in ESL learners' overall adoption of reading strategies contingent upon their enrollment in either science or business academic streams. These research inquiries will serve as guiding principles for the subsequent results section, wherein empirical findings will be presented and rigorously examined in the context of these investigations.

3. Results

3.1 Demographic Profile of Respondents

The demographic details below offer fundamental insights into the composition of the study population, serving as a foundational reference point. Furthermore, they allow for the examination of potential effects or variances specific to gender in relation to the study variables.

The demographic details from 118 respondents presented in Table 2 show that 58 (49.2%) of the participants were males, while 60 (50.8%) participants were females.

Table 2. Demographic profile of respondents (Gender)

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	58	49.2	49.2	49.2
Female	60	50.8	50.8	100.0
Total	118	100.0	100.0	

* N=118

3.2 Relationship between ESL Learners' Reading Strategy Use and Reading Comprehension Achievement

To investigate the relationship between the overall use of reading strategies and reading comprehension achievement, a Pearson Correlation Coefficient (r) was conducted. Table 3 shows the relationship between overall reading strategies use scores and reading comprehension achievement scores [$r(118) = 0.51, p < .01(2\text{-tailed})$]. In this case ($p = 0.000 < 0.05$), the result is significant at $\alpha = .05$. Therefore, the null hypothesis that stated no significant relationship between ESL learners' reading strategy use and reading comprehension achievement is rejected. The data shows that there is a significant positive relationship between overall reading strategies use and reading comprehension achievement. Referring to Table 3, the result shows a positive strong correlation ($r = .50$) between the two variables. This shows that students who had scored better in overall reading strategies used performed well in their reading comprehension achievement.

Table 3. Pearson Correlation between the scores on overall reading strategies use and scores on reading comprehension achievement

	Overall Reading strategies use	Reading Comprehension Achievement
Overall Reading strategies use	Pearson Correlation 1	.51**
	Sig. (2-tailed)	.000
	N	118
Reading Comprehension Achievement	Pearson Correlation .51**	1
	Sig. (2-tailed)	.000
	N	118

* $p < .01$, **Correlation is significant at the 0.01 level (2-tailed)

This relationship explained in Table 3 is graphically represented in Figure 2 below which shows that most of the data points fall into the first and third quadrants showing a positive correlation.

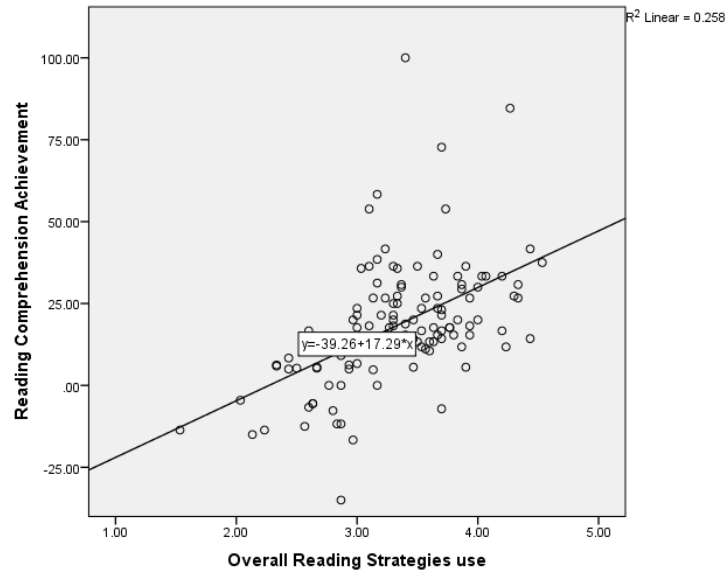


Figure 2. Scatter diagram showing the link between reading comprehension achievement and overall reading strategies

The results in Table 3 and Figure 2 show the significance of a strong positive correlation between overall reading strategy use and reading comprehension achievement. The reading strategies used for this research to find the answers to the correlation between them and reading comprehension achievement were skimming and scanning, using prior knowledge, and visualizing. Similar findings were reported by almost all the previous studies in different countries such as Iran, Pakistan, the USA, and Columbia (Dahle, 2017; Gilakjani & Sabouri, 2016; Medina, 2012; Rastegar et al., 2017; Teevno & Raisani, 2017).

According to Rigrey (as cited in Yukselir, 2014), learners apply various reading strategies to acquire, store, and collect information. This results in helping the learners comprehend the tasks and the steps to be taken if they are unable to understand them. The findings of this study corroborate the findings of Rastegar, Kermani, and Khabir (2017), who found a statistically significant relationship between reading comprehension achievement scores and the use of reading strategies. Moreover, the results of this research confirm previous findings that lead to the conclusion that appropriate reading strategies were beneficial for foreign language learners as they enhanced the reading comprehension of the learners (Gilakjani & Sabouri, 2016; Medina, 2012). The results of this study that reveal students who exhibited higher levels of proficiency in employing reading strategies also demonstrated superior performance in their reading comprehension achievements contradicts the findings of Molla's 2015 study, which indicated the absence of a substantial relationship between the utilization of reading strategies and students' reading comprehension achievements. Additionally, in Teevno and Raisani's 2017 study, they referenced Nyikos and Oxford's 1993 research, which found that students often lack awareness of how to apply and utilize reading strategies. The research highlights the significance of teachers' assistance and guidance in enabling students to effectively employ these strategies.

The results showed a strong positive correlation between overall reading strategy use, specifically skimming and scanning, and reading comprehension achievement. This finding corresponded with the findings from Asmawati's (2015), Diaz & Laguado's, (2013), and Fatmawati's (2015) studies where skimming and scanning is one of the strategies that was effective to improve students' comprehension.

Another reading strategy examined in this study to find out the relationship between overall reading strategy use and reading comprehension achievement is the use of prior knowledge. The results substantiated the findings of Chen, Maarof, and Yunus, (2016) that prior knowledge plays a vital role in enhancing comprehension, assisting the readers to connect with the text.

Use of the strategy, visualizing showed a positive correlation with overall reading strategy use and reading comprehension achievement, a result that aligns with findings from another study that indicates that visualizing is one of the strategies adopted by learners to improve their reading comprehension achievement (Gilakjani and Sabouri, 2016 & Dahle, 2017).

3.3 ESL Learners' Overall Reading Strategy Used by Gender

An Independent sample t-test was used to examine if there is a significant difference between ESL learners' reading strategy used by gender. Table 4 shows the results of the t-test done to check if there is any gender difference, in mean, with the reading strategies used by the participants. The results in Table 4 show $[t(116) = -2.98, p < .05 \text{ (two-tailed, equal variances assumed)}]$ where $(p = .004 < .05)$. The mean score of male students was 3.20 and the mean score of female students was 3.50 respectively. The data indicate that female students' use of reading strategies was better than male students. The analysis indicates there is a significant difference in mean between male and female students in their use of reading strategies at a 5 percent significance level. The average score for females was 0.30 points higher than the average mean score for males.

Table 4. Independent sample t-test for any gender differences in reading strategies used

Gender	N	Mean	Std. Deviation	Std. Error Mean	t-value	df	Sig. (2-tailed)
Male	58	3.20	.57	.08	-2.98	116.00	.004
Female	60	3.50	.52	.07			

* N=118

The result indicated that there is a positive strong correlation between reading strategies used ($M = 3.35$, $SD = .56$) and reading comprehension achievement ($M = 18.65$, $SD = 19.11$). The independent sample t -test also shows evidence of the difference in the mean scores of male and female students with their overall reading strategies use ($p=.004 < .05$).

The independent sample t -test showed there is a significant difference in mean between male and female students in their use of reading strategies at a 5 percent significance level. The results show that total MARSII scores are greater than 3. The data indicated that the mean scores of males and females are 3.20 and 3.50 respectively. Therefore, it can be concluded that female students' use of reading strategies was higher than male students. This finding is similar to the findings reported by Lee (2012) who found that female students' use of reading strategies was higher than that of male students. Moreover, another study which is in line with this research finding justified that male students' use of reading strategies is lower due to their lack of interest in reading (Junaid, 2015). The finding of this study is in contradiction with Teevno and Raisani (2017) who found that there is no significant difference between male and female students in their use of reading strategies and impact on their reading performance.

The results are generally consistent with previous research in most of the aspects. The reading strategy use and reading comprehension achievement are found to have a strong positive correlation. The total MARSII score which is used to measure the reading strategy use among male and female students showed that there is a significant difference in mean score between male and female students in their use of reading strategies.

4. Discussion

The primary objective of this study is to ascertain whether the implementation of specific reading strategies enhances the reading comprehension abilities of secondary-level ESL learners at a secondary school in Malé Maldives. This experimental study was conducted using reading comprehension tests for pre-test and post-test and using a questionnaire with two sections; one for collecting demographic information and the other to collect data on students' use of reading strategies through MARSII (a standardized 30-item scale measuring three factors such as Global Reading Strategies, Problem Solving Strategies and Support Reading Strategies) created by Mokhtari and Reichard (2012). Analysis of the descriptive statistics along with inferential statistics of independent sample t -test and Pearson Correlation Coefficient were utilised in order to address the two research questions formulated for examining the relationship between the use of reading strategies and reading comprehension achievement. The study found that there is a strong positive correlation between ESL learners' use of reading strategies and reading comprehension achievement. In addition, it is also found that there is a statistically significant difference in mean scores between male and female students in their use of reading strategies.

These results were consistent with many existing research. Based on the conclusion given, the following recommendations were posted. Firstly, school-wide reading programmes across different grades on different reading strategies could be conducted to nurture students to use the strategies to understand comprehension. This will hopefully help the students to be aware of the reading strategies and use them while reading, improving the reading comprehension performance of the school. School heads and higher authorities must facilitate the programmes by providing all required resources.

Secondly, teachers can model the use of different strategies through think aloud technique. This will allow the students to be motivated to practice the strategies while reading. Thirdly, teachers could train the students to read, and they could monitor the students' use of reading strategies consistently, allowing them to use proper strategies while reading.

In conclusion, this study is not without limitations. For instance, the study only used 118 pupils from a high school in Malé Maldives. Second, the study was constrained in that it only looked at a few different reading strategies. Other reading strategies were not looked into. Finally, the study only searched students' reading strategies and comprehension. Future research should focus on many techniques, as the students' application of these tactics will aid the learners in grasping the concept. Future studies can also investigate the elements that influence the application of the strategies, the students' perceptions of the reading strategies, and the teaching approaches used to increase students' reading comprehension.

Acknowledgments

The authors extend their sincere gratitude to staff and students from INTI International University, Malaysia, and Kulliyah of Education, Islamic University of Maldives for providing the necessary facilities for conducting this study as well as for the publication of this study. We also express our thanks to every team member who dedicated their time to participate in this study. The valuable contributions of our advisory committee members are also greatly appreciated.

Authors contributions

AN and AA conceptualized the idea, conducted the survey, and prepared the manuscript and visualizations. SKR and DM provided supervision throughout the study and reviewed the manuscript. All authors have read and agreed to the published version of the

manuscript.

Funding

This study was supported financially by INTI International University's Publication Grant. (Reference: TLC/30000471/2022)

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Sciedu Press.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

Open access

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

References

- Ali, A., & Razali, M. (2019). Role of reading strategies in active comprehension. *TESOL Quarterly*, 53(2), 332-346.
- Banditvilai, C. (2020). Factors influencing students' reading comprehension abilities. *Journal of Language Teaching Research*, 51(3), 285-300.
- Bryce, A. (2022). The intricacies of language teaching: Balancing explicit and tacit elements. *Journal of Language Teaching*, 56(2), 105-118.
- Cekiso, M. (2012). Relationship between reading strategies and comprehension. *International Journal of Educational Sciences*, 4(1), 32-45.
- Chandra, S. et al. (2019). Challenges faced by ESL learners in reading exams. *Language Assessment Quarterly*, 16(1), 45-57.
- Dahle, D. (2017). Visualizing and reading comprehension. *Reading Psychology*, 38(1), 49-69.
- Elleman, A., & Oslund, E. (2019). The complexities of teaching reading comprehension. *Reading Education*, 64(4), 287-302.
- Gilakjani, A., & Sabouri, N. (2016). Impact of reading strategies on foreign language learners. *Reading Teacher*, 69(2), 191-198.
- Grabe, W. (2009). Enhancing reading comprehension through reading strategies. *Reading Teacher*, 62(7), 646-654.
- Huyen, N. (2022). Impact of vocabulary and genre on reading comprehension. *Journal of Educational Studies*, 37(4), 541-556.
- Jannah, R., & Syahropi, H. (2022). Comprehension difficulties affecting English language learners. *Reading Research Quarterly*, 57(1), 42-55.
- Junaid, K. (2015). Reading strategy use and its impact on reading performance. *Reading Teacher*, 67(3), 320-328.
- Küçükoğlu, H. (2013). Challenges in second language learners' reading. *Journal of Applied Linguistics*, 26(2), 112-123.
- Lee, J. (2012). Gender differences in reading strategies. *Reading Research Quarterly*, 47(4), 387-398.
- Medina, S. (2012). Reading strategy instruction and reading comprehension. *Reading Teacher*, 65(6), 452-460. <https://doi.org/10.1002/TRTR.01068>
- Mokhtari, K., & Reichard, C. (2012). Metacognitive awareness of reading strategies inventory (MARSII). *Journal of Literacy Research*, 44(3), 464-486.
- Molla, M. (2015). Relationship between reading strategies use and reading comprehension. *Journal of Teaching Education*, 46(2), 125-137.

- Musdizal, M. (2019). Visualizing to go beyond the text. *Journal of Applied Linguistics*, 52(4), 324-342.
- Ningsih, P., Winarni, D., & Roemintoyo, R. (2019). Mastery of reading skills in the 21st century. *Journal of Educational Research and Development*, 3(1), 32-38. <https://doi.org/10.24269/ajbe.v3i2.1879>
- Nurmalasari, R. (2021). Students' awareness of reading strategies and comprehension. *Journal of English Language Teaching*, 36(2), 201-214.
- Nyikos, M., & Oxford, R. (1993). Gender differences in reading strategy use. *Modern Language Journal*, 77(2), 175-187. <https://doi.org/10.2307/329553>
- Pradani, T. (2021). Importance of reading as a life skill for academic performance. *Education Today*, 71(3), 214-220.
- Rastegar, S., Kermani, F., & Khabir, M. (2017). Contribution of reading strategy instruction to comprehension. *Journal of Language Teaching Research*, 48(4), 468-481.
- Sen, M. (2009). Reading comprehension achievement scores and reading strategies. *Reading Education*, 58(6), 534-542.
- Sheorey, R., & Baboczky, E. S. (2008). Metacognitive Awareness of Reading Strategies among Hungarian College Students. *Reading Strategies of First- and Second-Language Learners: See How They Read* (pp. 161-173). Norwood, MA: Christopher-Gordon Publishers.
- Teevno, R., & Raisani, R. (2017). Impact of reading strategies on learners' performance. *Journal of Education and Social Sciences*, 5(2), 150-159. <https://doi.org/10.20547/jess0521705205>
- Vlachos, F., & Papadimitriou, I. (2015). Impact of age on reading performance. *European Journal of Psychology of Education*, 30(3), 345-358.
- Wider, P. (2023). School-related stressors experienced by secondary students. *School Psychology Review*, 52(3), 385-398.
- Yukselir, C. (2014). Difficulties faced by second language learners in reading. *Language Learning Journal*, 42(3), 167-180.