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A Study of The Relationship between Metacognitive Reading Strategies among Undergraduates

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Abstract
Reading is a fundamental skill in language learning for learners to produce: write and speak the target language. In order to perform successfully in academic and professional settings, learners are required to learn new knowledge by reading and comprehending the written texts extensively and effectively. Nevertheless, poor reading literacy rate, performance and struggling readers are evidently some reading problems among second language learners and to better comprehend learners' difficulties this study explored learners' perceptions on their usage of metacognitive reading strategies. 109 undergraduates of a Malaysian university responded to the survey for this quantitative study. The study found that global reading strategies, problem solving strategies and support reading strategies were employed in reading tasks and the relationships between strategies were strong indicating that planning before reading, monitoring reading progress, solving issues and relying on support or help during reading are strategies used in reading tasks. Thus, this suggests that background knowledge or pre-reading activities and guidance are critical for learners to be able to complete reading activities well.
Keywords: Reading Skills, Reading Comprehension, Learning Strategies, Metacognitive Reading Strategies.

Introduction

Background of Study

Language learning involves acquiring listening, speaking, reading and writing skills. In order for learners to actively, confidently and appropriately produce the language: write and speak, having reading skills encourages that to occur. Hence, reading is considered a skill that is most fundamental in acquiring a language. Reading, according to Yunita (2016) is an integrated process which includes decoding vocabulary and sentences, applying background knowledge and making meaning of the writer's target messages through the use of cognitive and metacognitive strategies. Etemadfar et al (2019) added that reading comprehension relates to the process of thinking and forming meaning before, during and after reading by incorporating readers' prior knowledge and information found in the written text. Tompkins (2011) further explained that the skills involved in reading comprehension are phonology, syntax, semantics and pragmatics. In other words, in order for a reader to have complete understanding, the reader is required to have the ability to discern meaning of words and sentences that are applied in its appropriate contexts and settings.

Due to its holistic and complex process, reading comprehension is considered necessary in assessing language proficiency and understanding of content subjects. This includes Malaysia as language learners' reading comprehension skills are assessed for professional purposes and across academic levels, primary and secondary schools as well as in universities. English as a second language, a compulsory subject taught early in primary schools, continued in secondary until tertiary levels across Malaysia. In the setting, reading is one of the skills learners need to acquire strongly. According to Khamkhong (2018) in order to perform academically, reading to learn new knowledge from reading texts should be done extensively and effectively. One method to stimulate learners' understanding of written texts is by applying metacognitive reading strategies (Wu et al., 2021). Manoli and Papadopoulou (2012) further elaborated that metacognitive reading strategies are conscious, deliberate and goal-oriented plans that readers use to help them comprehend texts. Learners are aware of the process that takes place in understanding, completing reading tasks and reflecting on the effectiveness of the plans. By using metacognitive reading strategies, learners are more prepared to learn new knowledge and improve their reading skills which consequently encourages positive language learning experience.

Statement of Problem

Reading comprehension becomes a yardstick to learners' academic performance Dias et al (2015) and it is a prerequisite for the learning of any subject (Wu et al., 2019). Nevertheless, the results of Malaysian learners' reading literacy rate in comparison to the international standard are in appalling condition, despite the high appreciation for high competency in English literacy skills and intensifying efforts as well as modification to revamp the curriculum to improve the status of English language proficiency (Azman, 2016). The learners' poor performance in the English language is evident in the Program for International Students Assessment (PISA) 2018 report where it is acknowledged that there is a strong association between a country's literacy rate and its mean reading performance (Organisation for Economic Cooperation and Development, 2019). Students at the tertiary level are affected by issues like struggling readers, which hinder their academic performance. Students are at risk of dropping out owing to low academic performance, so prompt action must be taken (Stinebricker & Stinebricker, 2014). To solve this issue, the importance of metacognitive strategy in reading skills among Malaysian undergraduate learners should be emphasized.

Metacognition has recently gained importance as a goal in teacher preparation, student learning, and curriculum creation, particularly in higher education (Alena et al., 2017). Ahmadi et al (2013) emphasized that one of the most successful strategies for assisting second and foreign language studies is the metacognitive strategy for reading comprehension. It is also crucial for improving critical thinking, problem-solving, and decision-making (Zhao et al., 2014). Research on reading comprehension in general concur that for students to comprehend the substance of written texts, they must first comprehend the language. Reading ability is also judged to be lacking if the student struggles with the target language. Most of the time, it is assumed that struggling readers have weak linguistic skills (Phantharakphong & Pothithat, 2014). The use of language learning strategies in reading has been addressed in some research as a way for those who have difficulty reading to complete learning tasks. Given that learners must complete the learning tasks through reading, the importance of language learning strategies among learners cannot be denied.

In order to better comprehend the difficulties in learning a second language, it is necessary to provide findings from the perspective of the Malaysian environment. However, the majority of studies prioritise other research areas over the importance of critical thinking for learning (Mohseni et al., 2020). Because of this, metacognitive reading strategies should no longer be disregarded in the study, teaching, learning, and evaluation of English as a second language (Ahmadi et al., 2013). It would therefore be useful for academics to ascertain how metacognitive processes affect reading English texts. By examining the effects of metacognitive methods when reading English texts among undergraduates in a Malaysian environment, this study will also be helpful to second language learners.

Objective of the Study and Research Questions

This study is done to explore perception of learners on their use of learning strategies. Specifically, this study is done to answer the following questions:

- How do readers perceive the use of global reading strategies?
- How do readers perceive the use of problem-solving reading strategies?
- How do readers perceive the use of support reading strategies?
- Which is the most preferred reading strategy?
- Is there a relationship between reading strategies?

Literature Review

Metacognitive Reading Strategies among Undergraduates

Developing an understanding of reading strategies and their effects in improving reading proficiency has been of utmost importance among undergraduates. This is because readers can improve their reading skills when they are aware of the strategies they use. This awareness forms the basis of metacognitive reading strategies, described as the knowledge of the readers' cognition and the self-control mechanisms they use to monitor and improve comprehension (Ngoc, 2021). In addition, Mokhtari and Reichard (2002) noted that past studies acknowledged the importance of metacognitive awareness in reading comprehension as it is the distinction between skilled and unskilled readers. This aligns with Azis' (2019) assertion that consistent and continuous monitoring of their learning strategies is a key characteristic of successful learners. Based on Mokhtari and Reichard's (2002) work, the Metacognitive Awareness of Reading Strategies Inventory (MARSI) was developed to gauge adolescent and adult readers' metacognitive awareness and perceived use of reading strategies when reading academic-related materials. The MARSI consists of statements across

three categories, namely, Global Reading Strategies, Problem-Solving Strategies, and Support Reading Strategies. The information received from MARSI has an enormous impact on how students, lecturers, and researchers monitor metacognitive awareness and strategy use while reading.

Past Studies on Metacognitive Reading Strategies among Undergraduates

There have been many past studies on the metacognitive reading strategies among ESL learners. In a quantitative study conducted by Rabadi et al (2020), they studied the metacognitive reading strategies of 240 fourth-year undergraduates majoring in either English and Language and Literature or French Language and Literature in several Jordanian universities when reading texts written in English and French. The findings showed the students prefer Global Reading Strategies, such as using contextual clues and typographical features, as their preferred metacognitive reading strategies. The study concluded that language learners are able to control their reading through the use of metacognitive reading strategies by planning, coordinating and evaluating the learning process (Rabadi et al., 2020). In addition, language learners are expected to familiarize themselves with important and notable reading strategies so they are able to use them effectively. Next, the study by Do and Phan (2021) also looked at metacognitive awareness of reading strategies of 123 L2 Vietnamese TESL/TEFL final-year undergraduates. Using a questionnaire survey as the instrument, the results showed that Problem-Solving Strategies received the highest mean score, followed by Support and Global Reading Strategies. Problem-Solving Strategies are considered beneficial for them as it assists them in dealing with difficulties when reading difficult texts (Do & Phan, 2021). The study also discovered that learners' proficiency levels could predict the levels of their metacognitive awareness in reading. It was also found that female students have a higher frequency of Problem-Solving and Support Strategies than male students. These studies give insight for language instructors and teachers to take metacognitive awareness into consideration in their teaching plans.

Conceptual Framework

This study (refer to figure 1) is replicated from the study by (Mokhtari & Reichard, 2002). The study revealed three metacognitive reading strategies used by learners and the strategies are (a) global strategies, (b) problem-solving strategies and (c) support reading strategies. When readers depend on global reading strategies, they use carefully planned techniques by which they monitor their own reading. They read with a purpose in mind. They preview the text before reading it. Readers use problem-solving strategies to use information in ten texts to make sense of what they are reading. Some readers use strategies that are not directly related to the text. They may ask for help, they may paraphrase what they read, they may seek for other information to create meaning on what they are reading. This strategy is also known as social-affective strategies (Rahmat et.al., 2022) and involves the reader using strategies to lower their reading anxiety.

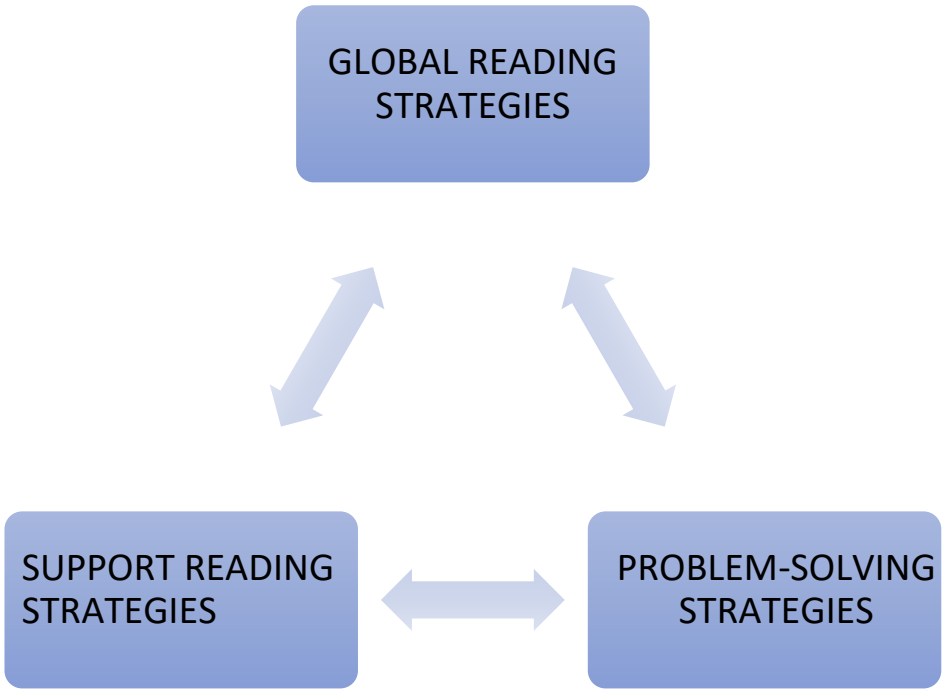

Figure 1- Conceptual Framework of the Study- relationship between metacognitive reading strategies among undergraduates

Methodology

This quantitative study is done to explore motivation factors for learning among undergraduates. A purposive sample of 109 participants responded to the survey. The instrument used is a 5 Likert-scale survey. The instrument is adopted from Metacognitive Awareness Strategies Inventory (MARSI) by (Mokhtari and Reichard, 2002). The distribution of items is presented in table 1 below. The survey has 4 sections. Section A has items on demographic profile. Section B has 13 items on global reading strategies. Section C has 8 items on problem-solving strategies and section D has 9 items on support reading strategies..

Table 1
Distribution of Items in the Survey

SECTION	READING STRATEGY	NO OF ITEMS
B	Global Reading Strategies	13
C	Problem-Solving Strategies	8
D	Support Reading Strategies	9
		30

Table 2
Reliability of Survey

Reliability Statistics

Cronbach's Alpha	N of Items
.933	30

Table 2 shows the reliability of the survey. The analysis shows a Cronbach alpha of .933, thus, revealing a good reliability of the instrument chosen/used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

Findings

Findings for Demographic Profile

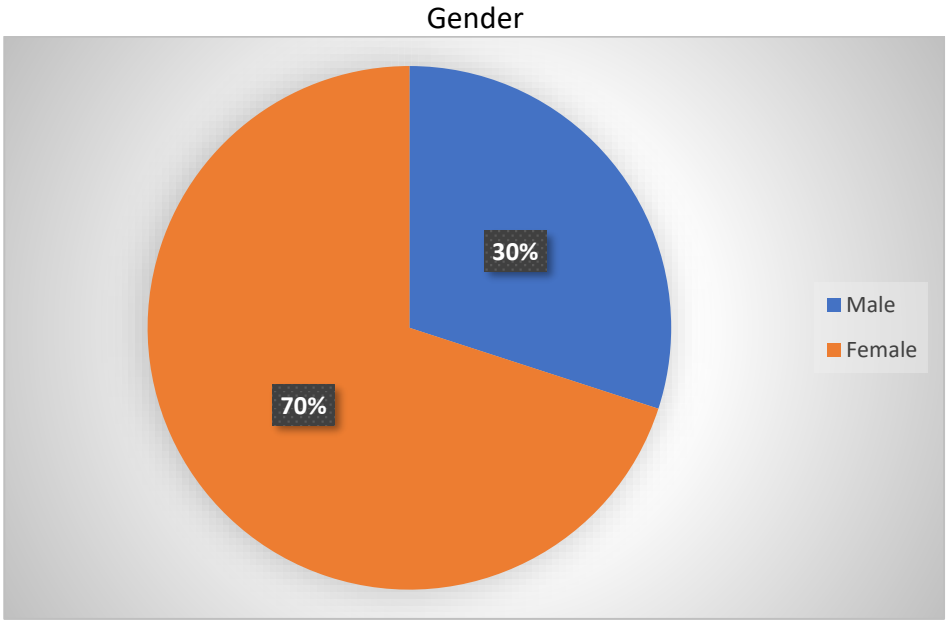

Figure 2- Percentage for Gender

Figure 2 shows the baseline demographic profile of the undergraduates. In the final sample, seventy-six (70%) of the respondents were female and thirty-three (30%) of the respondents were male.

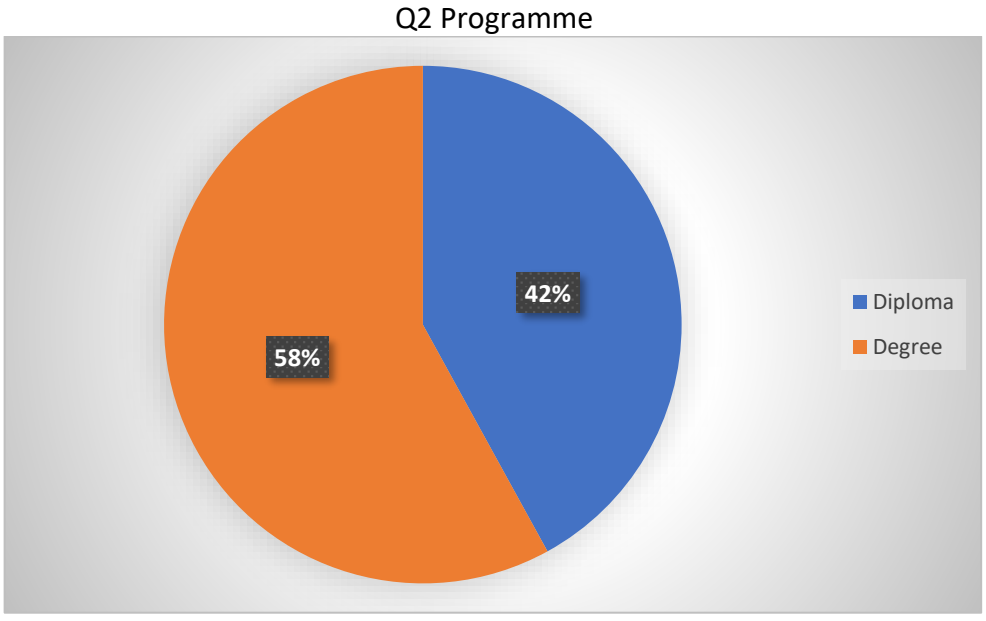

Figure 3- Percentage for Programme

Figure 3 shows the percentage of students according to the programme. Sixty-three respondents (58%) were degree students while forty-six respondents (42%) were diploma students.

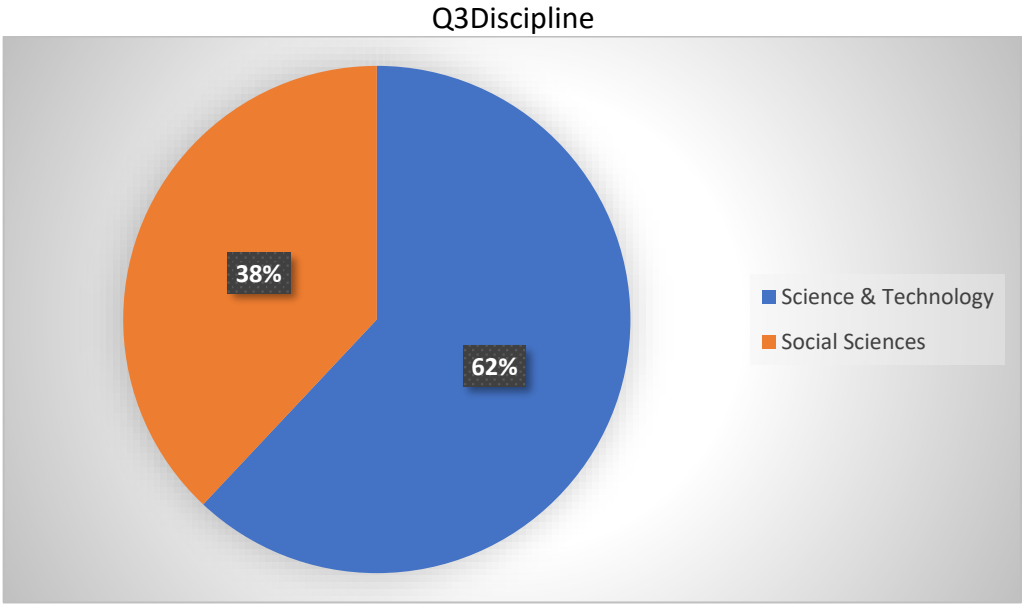

Figure 4- Percentage for Discipline

Referring to figure 4, sixty-eight (62%) of them belong to science and technology discipline and consequently forty-one (38%) of them belong to social science discipline.

Findings for Global Reading Strategies

Figure 5 depicted that most respondents generally perceive the use of global reading strategies positively as they can help them understand the efficiently. The analysis shows that the respondents acknowledged the role of their prior knowledge to assist in the reading comprehension process (M=4.1). This is aligned with Mokhtari and Reichard (2002) argument that readers activate prior knowledge to help them make connections and understand the content better by recalling what one already knows about the topic of the text. This technique can help them stay engaged and interested to continue reading the text. Other than that, the respondents also use typographical aids to identify key information (M=3.7) as part of their metacognitive reading strategies that helps in understanding the text. The finding demonstrated that critically analysing and evaluating the information presented in the text (M=3.5) scored the lowest mean and is regarded as the least important strategy in this construct. Overall, the analysis showed that the respondents perceive the use of global reading strategies as a helpful way to efficiently comprehend and engage with a text.

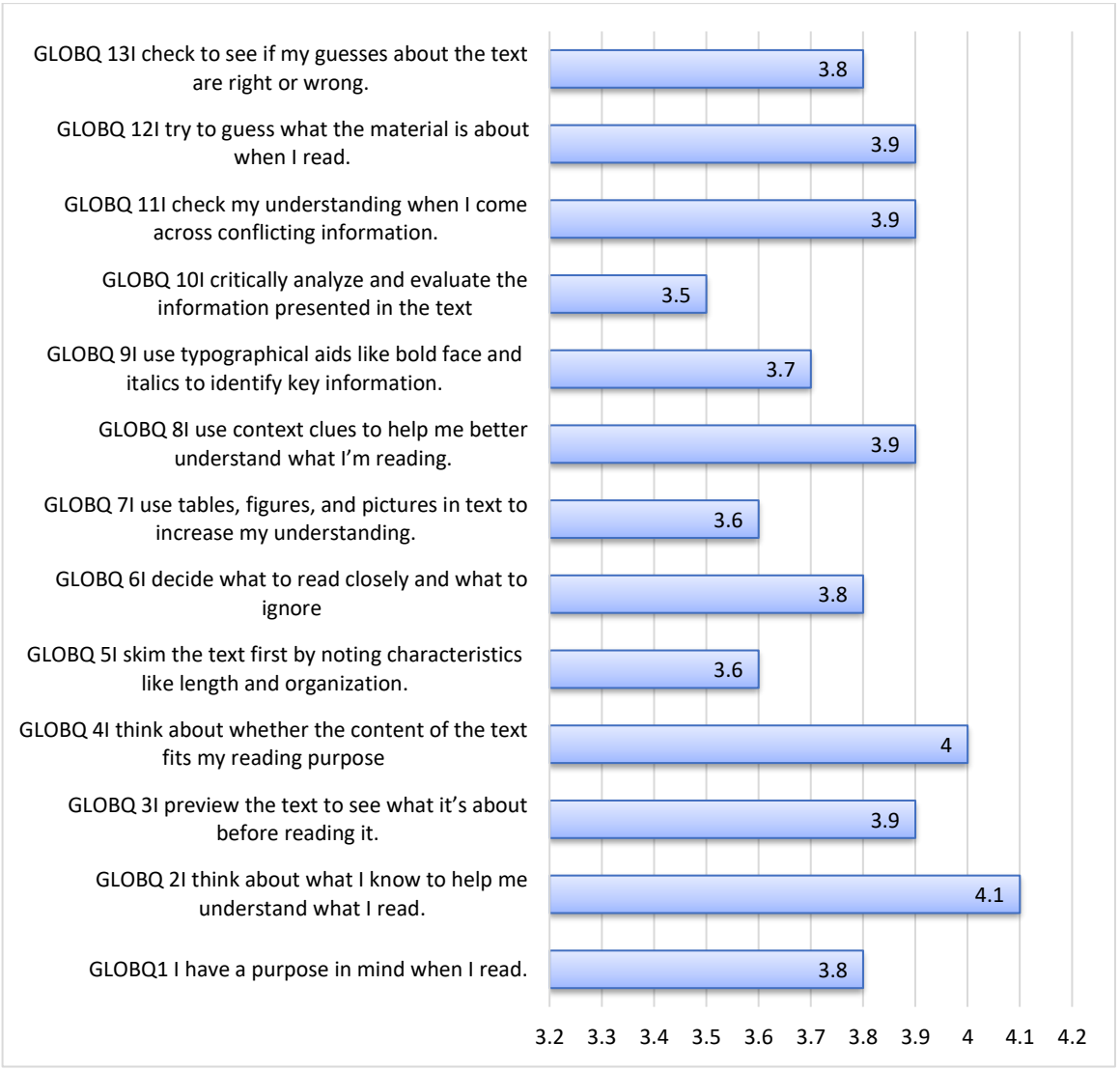

Figure 5 : Mean for Global Reading Strategies

Findings for Problem-Solving Strategies?

Figure 6 illustrates the mean scores for the statements in Part 3, Problem-Solving Strategies. The analysis indicated that the strategy that most respondents agreed with was 're-reading difficult texts to increase understanding' (M=4.4). This was followed by three strategies that shared a similar mean score (M=4.2); 'trying to get back on track when losing concentration', 'paying closer attention to the text when it becomes difficult', and 'trying to visualise the information to help remember the text'. Next, the strategies with the third highest mean score (M=4.1) were 'adjusting reading speed according to what is read' and 'trying to guess the meaning of unknown words or phrases'. On the other hand, the strategy that received the lowest mean score was 'stopping from time to time to think about what was read' (M=3.8). Overall, it can be reported that the respondents perceived most of the problem-solving reading strategies positively.

PART 3-PROBLEM-SOLVING STRATEGIES (PROB)

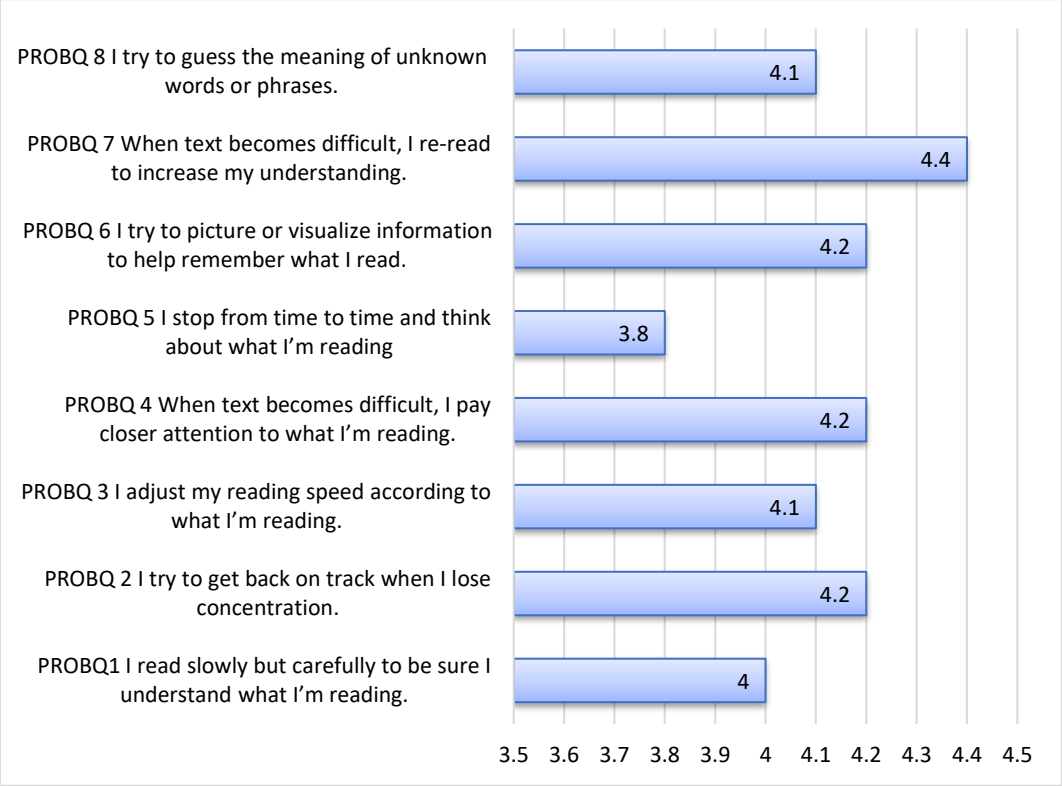

Figure 6 : Mean for Problem-Solving Strategies

Findings for Support Reading Strategies

Figure 7 showed the mean scores of the respondents using the Support Reading Strategies as part of their metacognitive reading strategies. The data analysis revealed their most frequently used strategies with similar mean scores were reading aloud strategy to help them understand any difficult texts, underling or circling significant words to ease remembering any important information, using reference materials such as a dictionary and reading the text back and forth to find any relationship among ideas. However, the note-taking strategy and discussion with others to check their understanding received the lowest mean score. Thus, this is the least preferred Support Reading Strategy for the respondents (M=3.3). It is interesting to note in Rabadi et al (2020)'s study, the note-taking strategy was the most preferred strategy, while using reference materials was the least preferred strategy. Overall, the respondents in this study perceived Support Reading Strategy generally positive as these strategies assist them towards a better understanding of any reading materials, especially related to academics effectively, and be more engaging.

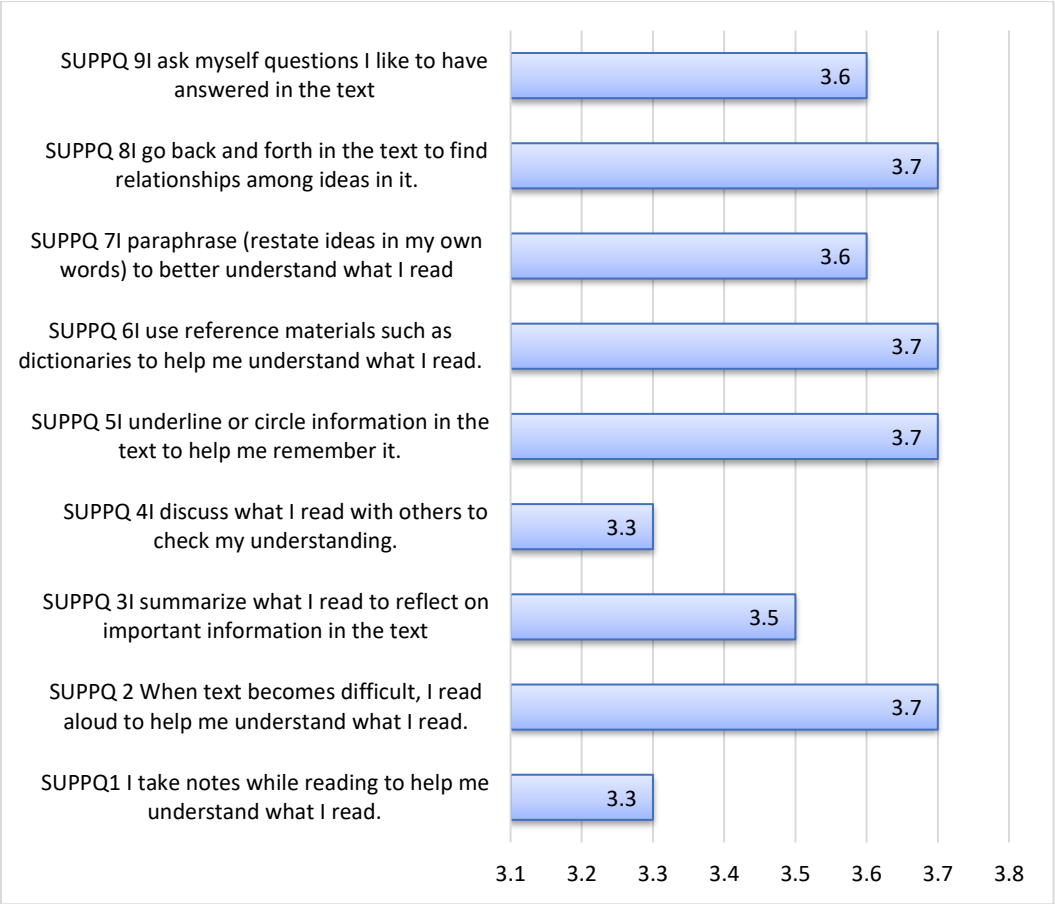

Figure 7: Mean for Support Reading Strategies

Findings for Most Preferred Strategy

This section presents data to answer research question 4- Which is the most preferred reading strategy? (compare means)

Table 3

Comparison of Total Mean Scores for all Strategies

Global Reading Strategies	3.8
Problem-Solving Strategies	4.1
Support Reading Strategies	3.6

Table 3 above shows the comparison of total mean of all reading strategies. The highest mean is 4.1 for problem-solving strategies. This means the most preferred reading strategy is problem-solving strategy.

Findings for Relationship across learning strategies

This section presents data to answer research question 5- Is there a relationship between reading strategies?

To determine if there is a significant association in the mean scores between metacognitive, effort regulation, cognitive, social and affective strategies data is anlaysed using SPSS for correlations. Results are presented separately in table 3, 4, 5 and 6 below.

Table 4
Correlation for Global and Problem-Solving Strategies

Correlations

		TOTALMEAN GLOBAL	TOTALMEAN PROBLEMSOLVE
TOTALMEANGLOBAL	Pearson Correlation	1	.680**
	Sig. (2-tailed)		.000
	N	109	109
TOTALMEANPROBLEMSOLVE	Pearson Correlation	.680**	1
	Sig. (2-tailed)	.000	
	N	109	109

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4 shows there is an association between global and problem-solving strategies. Correlation analysis shows that there is a high significant association between global and problem-solving strategies (r=.680**) and (p=.000). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between global and problem-solving strategies.

Table 5
Correlation for Global and Support Strategies

Correlations

		TOTALMEAN GLOBAL	TOTALMEAN SUPPORT
TOTALMEANGLOBAL	Pearson Correlation	1	.588**
	Sig. (2-tailed)		.000
	N	109	109
TOTALMEANSUPPORT	Pearson Correlation	.588**	1
	Sig. (2-tailed)	.000	
	N	109	109

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5 shows there is an association between global and support strategies. Correlation analysis shows that there is a high significant association between global and support strategies (r=.588**) and (p=.000). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between global and support strategies.

Table 6
Correlation for Problem-Solving Strategies and Support Strategies

Correlations

		TOTALMEAN PROBLEMSOLVE	TOTALMEAN SUPPORT
TOTALMEANPROBLEMSOLVE	Pearson Correlation	1	.554**
	Sig. (2-tailed)		.000
	N	109	109
TOTALMEANSUPPORT	Pearson Correlation	.554**	1
	Sig. (2-tailed)	.000	
	N	109	109

**. Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows there is an association between problem-solving and support strategies. Correlation analysis shows that there is a high significant association between problem-solving and support strategies (r=.554**) and (p=.000). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between problem-solving and support strategies.

Conclusion

Summary of Findings and Discussions

The study found that metacognitive reading strategies usage in comprehension tasks are perceived positively. In regards to using global reading strategies, prior knowledge provides assistance and allows connection to be made with previous learned information. In difficult and challenging tasks, problem-solving strategies especially re-reading, being attentive and visualising information are mustered in trying to improve understanding of the written material. Applying support reading strategies further enhances reading apprehension by reading aloud, underlining, and using other reference materials such as dictionaries. The study further examined the relationship between the three strategies and found a strong positive relationship with one another. This suggests that reading comprehension among language learners should be supplemented with carefully planned lessons that provide learners space and time to make meaning using background knowledge, focusing on words and sentence structures, and referring to other related materials and reading techniques.

This study introduced not only metacognitive reading strategies but also a guide in implementing the suggested reading strategies and activities in a formal education setting. The study's conclusions may influence educators' teaching pedagogies as well as the methodical process of developing educational pedagogies by helping to address certain reading comprehension issues. By enhancing reading comprehension skills and igniting a desire for language acquisition, this study may also help students overcome the challenges they have in reading comprehension well.

(Pedagogical) Implications and Suggestions for Future Research

Language teachers should provide ample time, space and materials for learners to amplify their reading comprehension skills. Executing gradual and progressive reading activities allow learners to learn new knowledge and make meaning effectively. Future research should focus on other demographic profiles across language levels and academic settings.

Reference

Ahmadi, M. R., Ismail, H. N., & Abdullah, M. K. K. (2013). The importance of metacognitive reading strategy awareness in reading comprehension. *English Language Teaching,* 6(10), 235-244. http://dx.doi.org/10.5539/elt.v6n10p235

Alena, R., Elci, A., & Elci, A. (2017). *Metacognition and successful learning strategies in higher education.* IGI Global.

Azis, N. I. (2019). *The implementation of metacognitive strategies in teaching speaking in Indonesian EFL classroom.* (Unpublished Doctoral dissertation). Universitas Negeri Makassar.

Azman, H. (2016). Implementation and Challenges of English Language Education Reform in Malaysian Primary Schools. *3L: Southeast Asian Journal of English Language Studies*, 22(3).

Dias, N. M., Montiel, J. M., & Seabra, A. G. (2015). Development and interactions among academic performance, word recognition, listening, and reading comprehension. *Psicologia-Reflexao eCritia,* 28, 404-415.

Do, H., & Phan, H. (2021). Metacognitive awareness of reading strategies on second language Vietnamese undergraduates. *Arab World English Journal (AWEJ)*, 12(1) 90-112. DOI: https://dx.doi.org/10.24093/awej/vol12no1.7

Etemadfar, P., Namaziandost, E., & Banari, R. (2019). The impact of different output-based task repetition conditions on producing speech acts among Iranian advanced EFL learners. *Theory and Practice in Language Studies*, 9(12), 1541–1549. https://doi.org/10.17507/tpls.0912.10

Jackson, S. L. (2015) *Research methods and statistics - A critical thinking approach* (5^{tH} Edition) Boston, USA:: Cengage Learning.

Khamkhong, S. (2018). Developing English L2 critical reading and thinking skills through the Pisa reading literacy assessment framework: A case study of Thai EFL learners. *3L: The Southeast Asian Journal of English Language Studies*, 24(3), 83-94. http://doi.org/10.17576/3L-2018-2403-07

Manoli, P., & Papadopoulou, M. (2012). Reading strategies versus reading skills: Two faces of the same coin. *Procedia – Social and Behavioral Sciences*, 45, 817-821.

Mohseni, F., Zohreh, S., & Saeideh, A. (2020). The impact of metacognitive strategy training and critical thinking awareness-raising on reading comprehension. *Cogent Education,* 7(1).

Mokhtari, K., & Reichard, C. (2002) Assessing students' metacognitive awareness of reading strategies. *Journal of Educational Psychology*, 94 (2), 249-259. Retrieved from https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.456.5716&rep=rep1&type=pdf
https://docs.google.com/forms/d/1hJn7oDOH36s58VfYtiAmCRZhbHEKCA2jj2sEF6HfafU/edit

Ngoc, N. T. (2021). The relationship between non-English major students' metacognitive reading strategies use and reading comprehension performance at Dong Nai Technology University. *American Journal of Sciences and Engineering Research,* 4(2), 117-126.

Organisation of Economic Cooperation and Development (OECD). (2019). PISA 2018 Database. http://www.OECD.org/PISA2018Database

Phantharakphong, P., & Pothithat, S. (2014). Development of English reading comprehension by using concept maps. *Procedia-Social and Behavioral Sciences,* 116, 497-501.

Rabadi, R. I., Al-Muhaissen, B., Al-Bataineh, M. (2020). Metacognitive reading strategies use by English and French foreign language learners. *Jordan Journal of Modern Languages and Literatures*. 12(2), 243-262.

Rahmat, N. H., Jincheng, J., Rahman, S. A. S. A., Yunos, D. R. M., Taib, S. A., Sim, M. S., Hassan, A. F. A. (2022) Exploring the balance of using dispositional and situational attribution in reading. *International Journal of Academic Research in Business & Social Science*, 12(8), 674-687. http://dx.doi.org/10.6007/IJARBSS/v12-i8/14432

Rajab, A., Rahman, H. A., Wahab, S. R., Nor, F. M., Zakaria, W. Z., & Rajim, W. Z. (2017). Metacognitive reading strategies among undergraduates. *International Journal of Information and Education Technology,* 7(7), 548-551.

Stinebricker, R., & Stinebricker, T. (2014). Academic performance and college dropout: Using longitudinal expectations data to estimate a learning model. *Journal of Labor Economics,* 32(3), 601-644.

Tompkins, G. E. (2011). *Literacy for the 21st century: a balanced approach* (4th ed.). Pearson, Merrill, Prentice Hall.

Yunita, N. (2016). *Developing students' reading through KWL (Know, Want to Know, Learned) and jigsaw techniques at Islamic secondary school.* University of Lampung.

Wu, L., Valcke, M., & Van Keer, H. (2019). Factors associated with reading comprehension of secondary school students. *Educational Sciences: Theory and Practice,* 19(4), 34-47.

Wu, L., Valcke, M., Van Keer, H. (2021). Supporting struggling readers at secondary school: an intervention of reading strategy instruction. *Reading and writing*, *34*, 2175-2201.

Zhao, N., Wardeska, J. G., McGuire, S. Y., & Cook, E. (2014). Metacognition: An effective tool to promote success in College Science Learning. *Journal of College Science Teaching,* 43(4), 48–54.