



METACOGNITIVE READING STRATEGIES AND READING MOTIVATION AMONG THE ELEMENTARY PUPILS: A MULTIPLE REGRESSION ANALYSIS

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ABSTRACT

Reading comprehension is an important skill that shapes academic success of students, and both metacognitive reading strategies and reading motivation played a roles in this process. The main objective of this study was to determine the relationship between metacognitive reading strategies and reading motivation among pupils at Mambalili Elementary School. The study employed a quantitative research method using complete enumeration among 166 pupils from Grades 4 to 6 during the School Year 2024–2025. An adapted survey questionnaire was used to gather data on metacognitive reading strategies, which included global, support, and problem-solving strategies, as well as reading motivation, which covered nine domains: reading efficacy, challenge, curiosity, compliance, recognition, grades, competition, social, and work avoidance. The findings revealed that students demonstrated a high level of metacognitive reading strategies, with global reading strategies receiving the highest mean, followed by support and problem-solving strategies, all interpreted as high. Reading motivation was also found to be high across all indicators, with work avoidance scoring the highest and reading efficacy the lowest. Correlation analysis indicated a moderate positive relationship between metacognitive reading strategies and reading motivation, suggesting that as students applied more metacognitive strategies, their motivation to read also increased. These findings highlighted the importance of metacognitive reading strategies and motivational factors to improve reading performance. It was recommended that teachers, school heads, and reading coordinators collaborate to implement confidence-building activities, diverse reading materials, and targeted interventions. Future researchers may also explore the interplay of intrinsic motivation, work avoidance, and metacognitive strategies through longitudinal studies for a deeper understanding of their influence on students' academic development.

KEYWORDS: Metacognitive Reading Strategies, Reading Motivation, Elementary Education, Quantitative Study, Bunawan, Philippines

1. INTRODUCTION

Reading, as one of the basic skills of a language, plays an indispensable role in second language acquisition. Naturally, reading has attracted many researchers' attention, and an increasingly large body of research has explored aspects of reading. These studies have attempted to unveil the secrets of proficient readers, with some examining the role of reading motivation, some focusing on the role of reading strategies, and others investigating the role of vocabulary in developing reading comprehension (Lee et al., 2022).

While extensive research has explored reading motivation, a significant gap exists in understanding its dynamics in the context of the digital age. While studies have examined the impact of digital media on reading habits, there is a need for more in-depth investigations into how metacognitive reading strategies influence reading motivation, particularly among younger generations. Several recent studies have investigated the relationship between reading motivation and academic achievement. The study of Agustina (2021) found a significant positive correlation between students' reading literacy levels and academic achievement in Indonesia. Another study revealed that reading motivation positively predicts reading comprehension in adolescents (Barber & Klauda, 2020).

However, no studies have been conducted on Metacognitive Reading Strategies and Reading Motivation Among Elementary Pupils of Mambalili Elementary School: A Multiple Regression Analysis, which is why this study is relevant to address the current crisis.

In Cambodia, it was found that many learners do not have access to good-quality reading materials. This problem worsens as learners have less time to read traditional texts due to the popularity of social media, which takes up the time and interest of learners. As a result, students who are less motivated to read struggle with language barriers. This problem in reading motivation shows that learners need more support and resources to build literacy and academic skills (Yen, 2023).

In the Philippines, specifically in Davao Region, it was found that learners who were less motivated in reading had a very low level of understanding text and visualizing concepts based on their background knowledge. Learners also provided incorrect answers to comprehension questions, leading to a gap between their reading ability and true understanding of the material. This situation emphasizes the need for targeted



strategies that could improve the motivation and comprehension of learners (Sarshogh et al., 2024).

This study is based on the Reading Motivation Theory by Wigfield et al. (2014), which states that the learner's intrinsic motivation coupled with self-determination definitely results in higher cognitive development. It is also anchored on Department of Education Memorandum No.158, series 2007 directing a whole school approach to mastery reading and writing for successful learning in the secondary level. The memorandum was the direct move of the department in response to the poor performance on reading comprehension results in the 2007 National Achievement Test. The memorandum pointed out that reading and writing as tools for learning need to be strengthened to affect the desired outcomes of students' performance in terms of improved communication skills in both oral and written language.

In this study, it is theorized that metacognitive reading strategies can affect reading motivation. There are three domains of metacognitive reading strategies: global reading strategies, support reading strategies and problem-solving strategies. Each of these domains is important since this could make a difference in reading motivation regarding reading efficacy, challenge, curiosity, aesthetics, importance, compliance, recognition, grades, and competition. The researcher also believes a significant relationship exists between metacognitive reading strategies and reading motivation. Figure 1 on the next page is the research paradigm showing the interplay of metacognitive reading strategies and reading motivation.

On the other hand, within the Division of Agusan del Sur, particularly in Mambalili Elementary School where the researcher is assigned, the increasing rate of nonreaders is quite alarming since the school is one of the awarded as one Zero nonreader school. In a recent pre-interview, one co-teacher shared that many learners showed low engagement in reading activities, limiting their metacognitive strategy development. This local evidence emphasizes the importance of exploring metacognitive reading strategies that will help improve reading motivation and overall literacy among pupils.

This decline in reading engagement has far-reaching implications for academic achievement, critical thinking skills, and overall personal development. Thus, for this reason, the researcher is eager to conduct this Study in Mambalili Elementary School to determine which domain of Metacognitive Reading Strategies affects the Reading Motivation of pupils.

The study's general objective was to determine if there is a significant relationship between metacognitive reading strategies and reading motivation and which domain of metacognitive reading strategies significantly affects the reading motivation of Mambalili Elementary School pupils.

Specifically, it sought to answer the following questions:

1. What is the level of metacognitive reading strategies in terms of:

- 1.1 Global reading strategies;
- 1.2 Support reading strategies; and
- 1.3 Problem-solving reading strategies?

2. What is the level of reading motivation in terms of:
 - 2.1 Reading efficacy;
 - 2.2 Challenge;
 - 2.3 Curiosity;
 - 2.4 Aesthetics;
 - 2.5 Compliance;
 - 2.6 Recognition;
 - 2.7 Grades;
 - 2.8 Competition;
 - 2.9 Social; and
 - 2.10 Work Avoidance?
3. Is there a significant relationship between metacognitive reading strategies and reading motivation?
4. Which among the domain of metacognitive reading strategies greatly influenced reading motivation?

2. METHODOLOGY

This part discussed the research design, respondents, instruments, data-gathering procedure, and the statistical instrument used to analyze and interpret the data gathered.

Research Design

This study utilized a descriptive research design, which predicts the variance of one or more variables based on the variance of another variable. The study variables are independent (predictor) and dependent (outcome). The correlation technique is a procedure in which subject scores in two variables are simply measured without manipulation to determine whether there is a significant relationship (Jianxin et al., 2024). This design is suitable since this study aims to investigate which domain of metacognitive reading strategies greatly affects reading motivation.

A survey design was used for this quantitative descriptive research study as it investigated the level and association between metacognitive reading strategies and reading comprehension among pupils of Mambalili Elementary School.

Research Respondents

The respondents of this research study were 166 pupils of Mambalili Elementary School enrolled during the S.Y. 2024-2025. A universal sampling technique was utilized so that each cluster member would have an equal chance of being selected (Abdulhamid et al., 2024). Bunawan is a municipality in Agusan del Sur, located in the Caraga region of Mindanao, Philippines. Bunawan is renowned for its rich biodiversity and natural beauty. The Agusan Marsh Wildlife Sanctuary, a protected area and Ramsar Wetland Site, spans several municipalities, including Bunawan. This sanctuary is home to diverse flora and fauna, including the Philippine eagle. Part of Bunawan is the barangay Mambalili where this study was conducted particularly in Mambalili Elementary



School. Situated near the Agusan River, serves as one of the Philippines' largest river systems.

Research Instruments

The instruments used in this study consist of two parts. The first part is an adapted questionnaire on metacognitive reading strategies from the Study of (Mokhtari & Reichard, 2002) entitled "Assessing Students Metacognitive Awareness of Reading Strategies?" The second part is another adapted questionnaire on reading motivation by Alvarado and Adriatico (2019) entitled "Reading Motivation vis-s-vis Academic Performance." The current study's survey questionnaire was designed to determine the relationship between these two variables.

The first part consisted of three indicators: global reading strategies, support reading strategies, and problem-solving strategies. From the indicators, the structure will be composed of 13, 9, and 8 statements, respectively.

On the other hand, the second part is composed of ten indicators: reading efficacy, challenge, curiosity, aesthetics, compliance, recognition, grades, social, competition and work avoidance. There are six statements in reading efficacy: 8 statements for challenge, 8 statements for curiosity, 7 statements for aesthetics, 8 statements for compliance, 8 statements for recognition, 8 statements for grades, 8 statements for competition, and 4 statements for reading work avoidance.

Moreover, the data regarding the metacognitive reading strategies and reading motivation were gathered by adding scores to all statements. Then, the level of these variables will be determined using the Likert scale. The scoring and interpretation of metacognitive reading strategies and reading motivation are presented below.

Rating	Interval	Descriptive Rating	Descriptive Interpretation
4	3.5 – 4.00	Strongly Agree	The pupils strongly agreed that they manifested Metacognitive Reading Strategies most of the time.
3	2.5 – 3.49	Agree	The pupils agreed that they manifested Metacognitive Reading Strategies often.
2	1.5 – 2.49	Disagree	The pupils disagreed that they manifested Metacognitive Reading Strategies rarely.
1	1.00 – 1.49	Strongly Disagree	The pupils strongly disagreed and never manifested Metacognitive Reading Strategies.

On the other hand, the scoring and interpretation of data for the reading motivation is shown below.

Rating	Interval	Descriptive Rating	Descriptive Interpretation
4	3.5 – 4.00	Strongly Agree	The pupil strongly agreed that their Reading Motivation is always observed.
3	2.5 – 3.49	Agree	The pupil agreed that their Reading Motivation is oftentimes observed.
2	1.5 – 2.49	Disagree	The pupil disagreed and indicated that their Reading Motivation is sometimes observed.
1	1.0 – 1.49	Strongly Disagree	The pupil strongly disagreed and stated that their Reading Motivation is never observed.

The researcher conducted a pilot test using adapted questionnaires to test the instrument's validity. The pilot testing was conducted in a different school, West Bunawan Central Elementary School. The researcher explained to the school principal and the respondents the importance of conducting the pilot testing and its significance in making this study reliable.

Research Procedure

The researcher carefully followed the following procedures while conducting this study.

Ethics and review. The researcher secured an ethical clearance from the ethics review committee to ensure the

integrity and validity of the research to protect participants' rights and well-being and maintain public trust.

Endorsement of the graduate school. The researcher asked endorsement letter from the graduate school to provide necessary approval to conduct the study.

Seeking Permission to Conduct the Study. The researcher prepared a letter of permission for the school principal and the Division of Agusan del Sur to allow her to conduct this study. The researcher also explained the nature of the study, and their utmost cooperation was highly appreciated.



Administration and Retrieval of the Research Instrument. The researcher herself distributed and administered the research instruments to the students, who were asked to answer the survey questionnaire. The instruments were collected immediately to ensure the confidentiality of the responses.

Collation and Tabulation of Data. After the data collection, the researcher tallied, collated, tabulated, and submitted the data to the statistician for statistical treatment. The results were analyzed and interpreted using the four-point Likert scale.

Statistical Treatment of Data

This section presented the statistical tools that were used in the study. The data in this study was organized and classified based on the research design and the problems. The data was tallied and tabulated to facilitate the presentation and interpretation of the results. Statistical tools also helped the researcher determine the validity and reliability of the research instrument. The researcher used the following:

Mean. This tool was used to determine the level of metacognitive reading strategies and reading motivation.

Pearson r correlation. The Pearson correlation coefficient, also called Pearson's r , is a statistical calculation of the strength of two variables' relationships. In other words, it measures how dependent two variables are on each other. Using the application SPSS, the data was analyzed to get the null hypothesis and explain the relationship between the independent and dependent variables.

Multiple Regression Analysis. This was used to estimate the relationship between two or more independent variables and one dependent variable (Ruan, 2024).

Data Collection Procedure

The researcher sought approval from the ethics review and validation of the questionnaires to ensure the integrity of the study process set by the Assumption College of Nabunturan Ethics Review Committee and to build trust between the researcher and the parties involved. After that, the data was collected for the study. The result of the survey were collected and tabulated subject for statistical treatment by the statistician. The consent forms signed by the participants for voluntary participation in the study were also secured first before they filled in the survey questionnaires. The participants were free to withdraw from participating in the study.

Ethical Considerations. Refers to the principles and guidelines that help ensure the actions, research, and decision-making are conducted morally, correctly, fairly, and responsibly. With this, the researcher made sure that the ethical standards were strictly adhered to throughout the study, addressing the following areas:

Social Value. The study addressed the current challenges related to metacognitive reading strategies and reading motivation among certain pupils of Mambalili Elementary School. This research aims to explore the important

connection between metacognitive reading strategies and reading motivation. The result was presented to the school and published in an online journal, allowing other researchers to reference their own study.

Informed Consent. The researcher provided the Information Consent Form (ICF) to the selected participants. Essential information, such as the researcher's name and affiliation, was shared. It was also made clear that participation is entirely voluntary and that participants can withdraw at any time if they experience discomfort. The purpose of the study was to explain the procedures that would be carried out.

Vulnerability of the Research Participants. The researcher shared the entire procedure of the in-depth interview to be carried out and emphasized that the participants have an option and are free to withdraw from the interview if they feel violated, which leads to discomfort and affects them in many aspects.

Risks, Benefits, and Safety. The researcher explained the benefits of participating in the study. The in-depth interview took place at a time and location that works best for the participants, and the researcher was reimbursed for whatever cost they incur.

Privacy and Confidentiality of Information. To ensure that the Data Privacy Act of 2012 is being observed, the researcher ensured that the participants' identities, personal information, and collected data are kept private and secure. The data collected was recorded using a mobile phone, and the files will be saved on Google Drive, to where only the researcher had access.

Justice. The research participants were chosen based on the inclusion criteria: must be an enrollee of Mambalili Elementary School, preferably grade 4,5 and 6 pupils. In any event, the researcher will compensate the participants for any cost incurred during the interview.

Transparency. The researcher disclosed the study's affiliations and objectivity to address this aspect. A copy of the transcript of their responses was sent to the researcher participants to confirm the data's reliability and validity.

Qualification of the Researcher. The researcher had enough experience conducting a study during college and graduate school.

3. RESULTS AND DISCUSSIONS

This section discusses the presentation, analysis, and interpretation of the data gathered concerning the research objectives. It presents the level of metacognitive reading strategies and reading motivation of learners and the significance of the relationship between these two variables. The findings were organized in tables with descriptive interpretations and supporting findings from authors to provide a clear understanding of the results of the study.



Table 1. Level of Metacognitive Reading Strategies

Indicators	Mean	Interpretation
Global Reading Strategies	2.92	High
Support Reading Strategies	2.91	High
Problem-Solving Reading Strategies	2.86	High
Overall	2.87	High

Presented in Table 1 is the level of metacognitive reading strategies with an overall mean of 2.87, interpreted as High. Among the three indicators, *problem-solving reading strategies* got the lowest mean of 2.86 with High interpretation, indicating that learners demonstrate strong but slight use of strategies focused on addressing difficulties during reading. This is followed by *support reading strategies* with a mean of 2.91, interpreted as high, suggesting that learners often utilize tools and techniques, such as note-taking and highlighting to improve their comprehension.

Global reading strategies got the highest mean of 2.92, also interpreted as High, implying that learners are most consistent in applying purposeful reading strategies such as previewing texts and setting reading goals to improve their understanding. The results of this study revealed that the learners actively employ different metacognitive reading

strategies at a high level, which supports adequate reading comprehension and academic success.

The result of this study supported the findings that metacognitive reading strategies significantly improve reading comprehension as they found that students mainly utilized support and problem-solving strategies, with global strategies being less commonly employed (Noviabahari et al., 2023). Furthermore, high mean found for support and problem-solving strategies in the current study, where students may be utilizing strategies such as note-taking and rereading without fully being aware of the broader cognitive processes involved in their reading activities. This highlights the need for greater metacognitive awareness, which could improve the strategic use of reading approaches. This result indicates a disconnect between the high reported use of strategies and low metacognitive awareness of learners (Dammak and Maaoui, 2022).

Table 2. Level of Reading Motivation

Indicators	Mean	Interpretation
Reading Efficacy	2.77	High
Challenge	3.10	High
Curiosity	2.89	High
Compliance	2.84	High
Recognition	2.95	High
Grades	2.86	High
Competition	3.14	High
Social	3.23	High
Work Avoidance	3.38	High
Overall	3.02	High

Presented in Table 2 is the level of reading motivation among the respondents, with an overall mean of 3.02, interpreted as High. Among the indicators, *reading efficacy* obtained the lowest mean of 2.77, though still interpreted as High, suggesting that learners have a positive but slightly lower level of confidence in their reading abilities than other motivational factors. This is followed by *compliance* with a mean of 2.84 and *grades* with a mean of 2.86, both interpreted as High, indicating that learners are motivated to read based on external expectations and academic performance.

Next is *curiosity*, which has a mean of 2.89, interpreted as High, highlighting that learners are generally driven to read by their interest in discovering new information. Recognition obtained a mean of 2.95, suggesting that learners are motivated by the acknowledgment and praise they receive for their reading efforts. *Challenge* also got a mean of 3.10, implying that learners are highly motivated by tasks that push them beyond their comfort zones.

Competition received a mean of 3.14, highlighting that learners desire to perform better than their peers.

Social motivation ranked even higher, with a mean of 3.23, showing that students find motivation through interactions and shared reading experiences with others. Finally, *work avoidance* received the highest mean of 3.38, suggesting that there is a tendency for learners to read as a means to avoid other tasks rather than for purely academic or personal growth reasons. The result of the data revealed that learners exhibit a strong level of motivation toward reading across different indicators as influenced by intrinsic and extrinsic factors.

This findings aligned with the study about developing a questionnaire to assess different factors of reading motivation, including self-efficacy (Chatzikyriakidou & McCartney, 2022). The study further supports the notion that a combination of external and internal factors shapes students' reading motivation. It was also found that extrinsic



motivation was slightly higher than intrinsic motivation among students aligns with the higher scores for indicators such as compliance, grades, and social motivation. This indicates that motivation of learners may be influenced by external expectations, such as academic performance,

recognition, and competition, reflects the patterns observed in their work. This supports the findings that the desire for competition and recognition among learners was based in the extrinsic factors, such as the external pressures on student motivation (Huang & Reynolds, 2022).

Table 3. Significance of the Relationship of Metacognitive Reading Strategies to Reading Motivation

Independent Variables	Dependent Variable	r-value	p-value	Decision
Metacognitive Reading Strategies	Reading Motivation	0.380	< .001	Reject Ho

Presented in Table 3 is the significance of the relationship between metacognitive reading strategies and reading motivation. The computed r-value *0.380* indicates a *moderate positive correlation* between the metacognitive strategies and reading motivation of learners. The results suggest that as metacognitive reading strategies increase, the reading motivation level among learners also increases. The corresponding p-value <.001 leads to the decision to reject the null hypothesis (Ho), confirming a *statistically significant relationship* between metacognitive reading strategies and reading motivation among learners. This result highlighted that learners actively applying metacognitive strategies are more likely to be motivated in their reading activities.

Recent studies have demonstrated the relationships between metacognitive strategies, reading motivation, and reading comprehension. The positive correlation between metacognitive awareness of reading strategies and reading comprehension This result closely support that metacognitive awareness positively influences reading comprehension (Halim et al., 2022). Furthermore, implementing metacognitive strategies, such as self-planning, self-monitoring, and self-evaluation, improves the comprehension and motivation of students to engage in reading activities (Faridah et al., 2022).

Table 4. Regression Analysis on the domains of Metacognitive Reading Strategies to Reading Motivation

Indicators	Unstandardized Coefficients		Standardized Coefficients	t-value	p-value	Decision
	B	SE	Beta			
(Constant)	0.899	0.708				
Global Reading Strategies	-0.090	0.100	-0.215	-0.896	0.421	Failed to reject Ho
Support Reading Strategies	0.646	0.193	0.878	3.342	0.029	Reject Ho
Problem-Solving Reading Strategies	0.171	0.111	0.366	1.549	0.756	Failed to reject Ho

Presented in table 4 is the regression analysis on the influence of metacognitive reading strategies on reading motivation. Global Reading Strategies had a B of -9.0% and a p-value of 0.421, and Problem-Solving Reading Strategies had a B of 17.1% and a p-value of 0.756; hence, the researcher failed to reject the null hypothesis. However, Support Reading Strategies had a B of 64.6% and a p-value of 0.029, indicating a significant influence on reading motivation; hence, the researcher rejected the null hypothesis.

Strategies (SRS) and problem-solving strategies when reading texts are good reader (Abergos et al., 2024).

4. CONCLUSION AND RECOMMENDATIONS

Conclusion

The findings of this study revealed that learners exhibit a high level of metacognitive reading strategies and reading motivation. Metacognitive strategies, particularly global and support reading strategies, are applied effectively by learners, indicating their active engagement in purposeful and supportive approaches to reading. Similarly, the level of reading motivation among the learners is also high across various motivational factors, with learners being driven by both intrinsic and extrinsic motivators, such as curiosity, recognition, and social interactions, along with external academic pressures.

This findings supports the study which found Support Reading Strategies (SRS) as effective for improving reading comprehension, particularly for struggling readers. It was found that students who frequently employ Support Reading



The positive relationship between metacognitive reading strategies and reading motivation indicates that learners' motivation to engage in reading tasks increases as they actively apply metacognitive strategies. This suggests that self-monitoring and goal-setting strategies can enhance learners' drive to read, improving their engagement and overall reading experience.

Recommendations

Based from the findings of this study, the following recommendations were made:

1. Teachers may implement personalized interventions that build learners' confidence in their reading abilities. This may include setting achievable goals, providing regular feedback, and offering individualized challenges. Teachers may also foster a supportive classroom environment where students might share their reading progress and celebrate achievements.
2. School heads and administrators may prioritize professional development programs focused on improving students' self-confidence in reading. Workshops and training for teachers on effective strategies to enhance reading efficacy may empower teachers to support their students better.
3. Reading coordinators may support the development of curiosity by creating diverse reading materials that align with students' interests, such as graphic novels or interactive reading platforms. They may also work with teachers to create opportunities for students to engage in independent research or reading projects that spark their curiosity and love for reading.
4. For students, engaging in a more active exploration of reading materials beyond what is assigned is important. Students may be encouraged to identify topics of personal interest and read widely. This may help foster intrinsic motivation and enhance reading proficiency.
5. Future researchers may explore the complex relationship between intrinsic motivation and work avoidance, particularly how metacognitive strategies influence reading performance. Longitudinal studies may provide valuable data on how motivation and reading strategies impact students' long-term academic success, and collaborations with schools may facilitate the practical application of findings in the classroom.

5. REFERENCES

1. Abergos, L. I. B., Cruz, J. R. M. D., Lasala, J. C., Prado, S. N., Tapar, P. K. M., Cañeza, D. C. B., & Ocampo, D. M. (2024). Effectiveness of remedial reading to struggling readers of Grade 7 students. *SHS Web of Conferences*, 182, 01004. <https://doi.org/10.1051/shsconf/202418201004>
2. Abdulhamid, S., S, M. V., & Ahmed, Z. M. (2024). A review of cluster Under-Sampling in unbalanced Dataset as a methods for improving software defect prediction. *Journal of Applied Science Information and Computing*, 4(2), 20–29. <https://doi.org/10.59568/jasic-2023-4-2-03>
3. Agustina, A. (2021). Indeks Aktivitas Literasi Membaca Peserta Didik dan Prestasi Akademik: studi korelasi pada 34 propinsi di Indonesia. *Jurnal Analisa Pemikiran Insan Cendekia*, 4(2), 64–71. <https://doi.org/10.54583/apic.vol4.no2.70>
4. Alvarado, E. S., & Adriatico, C. (2019). Reading Motivation vis-s-vis Academic Performance. *Open Journal of Social Sciences*, 07(06), 92–106. <https://doi.org/10.4236/jss.2019.76007>
5. Barber, A. T., & Klauda, S. L. (2020). How reading Motivation and Engagement Enable reading Achievement: Policy implications. *Policy Insights From the Behavioral and Brain Sciences*, 7(1), 27–34. <https://doi.org/10.1177/2372732219893385>
6. Chatzikyriakidou, K., & McCartney, M. (2022). Motivation in Reading Primary Scientific Literature: a questionnaire to assess student purpose and efficacy in reading disciplinary literature. *International Journal of Science Education*, 44(8), 1230–1250. <https://doi.org/10.1080/09500693.2022.2073482>
7. Dammak, H., & Maaoui, A. (2022). Tunisian EFL Students' awareness and use of metacognitive Strategies in academic reading. *The Barcelona Conference on Education Official Conference Proceedings*, 171–183. <https://doi.org/10.22492/issn.2435-9467.2022.15>
8. Faridah, F., Setyaningrum, R. R., & Falakha, E. N. (2022). Metacognitive strategy to enhance students' reading text-ability: case study in the vocational high school. *Journal of Applied Studies in Language*, 6(2), 199–205. <https://doi.org/10.31940/jasl.v6i2.646>
9. Halim, N. A., Satimin, O., Obaid, A., & Ghazali, A. S. (2022). Relationship between Metacognitive Awareness of Reading Strategies and Reading Comprehension. *AJELP the Asian Journal of English Language and Pedagogy*, 10(1), 56–67. <https://doi.org/10.37134/ajelp.vol10.1.5.2022>
10. Huang, S., & Reynolds, M. (2022). Facts that Influence College Students' Reading Motivation. *Athens Journal of Education*, 9(2), 187–210. <https://doi.org/10.30958/aje.9-2-1>
11. Jianxin, N. Z., Wenhong, N. L., Yuli, N. L., & Ruihong, N. X. (2024). Understanding Aesthetic Principles in Music and its Effect to Contemporary Music Composition: An Educational Psychology Perspective. *Journal of Psychology and Behavior Studies*, 4(2), 08–30. <https://doi.org/10.32996/jpbs.2024.4.2.2>
12. Lee, J. H., Ahn, J. J., & Lee, H. (2022). The role of motivation and vocabulary learning strategies in L2 vocabulary knowledge: A structural equation modeling analysis. *Studies in Second Language Learning and Teaching*, 12(3), 435–458. <https://doi.org/10.14746/ssllt.2022.12.3.5>
13. Mokhtari, K., & Reichard, C. A. (2002). Assessing students' metacognitive awareness of reading strategies. *Journal of Educational Psychology*, 94(2), 249–259. <https://doi.org/10.1037/0022-0663.94.2.249>
14. Noviabahari, J. L., Palupi, D., & Wulandari, R. M. (2023). EFL College Students' Reading Strategies for Comprehending Reading Texts. *NOBEL Journal of Literature and Language Teaching*, 14(1), 72–83. <https://doi.org/10.15642/nobel.2023.14.1.72-83>
15. Ruan, Y. (2024). Exploring multiple regression models: key concepts and applications. *Science and Technology of Engineering Chemistry and Environmental Protection*, 1(7). <https://doi.org/10.61173/yjpt3s59>



16. Sarshogh, M., Rezvani, E., & Karimi, F. (2024). *Effects of Collaborative Strategic Reading (CSR) on EFL learners' reading comprehension, reading motivation, and metacognitive awareness*. *Innovare Journal of Education*, 34-40.
<https://doi.org/10.22159/ijoe.2024v12i1.50053>
17. Wigfield, A., Mason-Singh, A., Ho, A. N., & Guthrie, J. T. (2014). *Intervening to improve children's reading motivation and comprehension: Concept-Oriented Reading Instruction*. In *Advances in motivation and achievement* (pp. 37-70).
<https://doi.org/10.1108/s0749-742320140000018001>
18. Yen, S. (2023). *Benefits of reading and how to promote reading habits among Cambodians*. *Cambodian Journal of Educational Research*, 3(2), 91-103.
<https://doi.org/10.62037/cjer.2023.03.02.06>