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Gender Differences in Metacognitive Reading Strategies in Academic Text Processing among Nigerian Undergraduates

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Abstract

Reading academic texts is a fundamental skill for success in higher education, as it enables students to engage with disciplinary knowledge, interpret complex ideas, and develop critical thinking skills. However, many undergraduates experience difficulties in comprehending academic materials. One important factor that supports effective reading is the use of metacognitive reading strategies, which allow learners to plan, monitor, and evaluate their understanding during reading. Although these strategies have been widely studied, variations in their use among different learner groups remain underexplored. One such area concerns gender-based differences in strategy use. This study therefore investigates gender differences in metacognitive reading strategies in academic text processing among Nigerian undergraduates. The study is anchored in Metacognitive Theory (Flavell, 1979) and adopts the Metacognitive Awareness of Reading Strategies Inventory (MARSI) framework (Mokhtari & Reichard, 2002), which categorizes strategies into global, problem-solving, and support strategies. Using a stratified random sampling technique, data were collected from 200 undergraduates (100 males and 100 females) drawn from three Nigerian universities: Nnamdi Azikiwe University, Awka; Imo State University, Owerri; and Tansian University, Umunya. Descriptive statistics were used to identify patterns of strategy use, while independent samples t-tests were conducted to examine gender differences. The findings reveal that students employ all three categories of metacognitive strategies. However, female students reported significantly higher use of

global and support strategies than male students, while no significant gender difference was found in problem-solving strategies. The results indicate that gender plays a role in shaping students' metacognitive engagement with academic texts and suggest the need for more inclusive and strategy-focused reading instruction in Nigerian universities.
Keywords: Metacognitive Reading Strategies; Academic Text Processing; Gender Differences; Nigerian Undergraduates; ESL

Introduction

Studies on reading comprehension in Nigeria have consistently reported that many undergraduates experience difficulties in understanding academic texts, particularly in tasks requiring critical analysis, inference, and synthesis of information (e.g. Grabe, 2009; Pressley & Afflerbach, 1995). These challenges have been linked to limited use of effective reading strategies, especially metacognitive strategies that enable learners to regulate their comprehension processes. In the Nigerian context, empirical studies have shown that students often rely on surface-level reading approaches and demonstrate low levels of strategic awareness, which negatively affects their academic performance.

In addition to general comprehension difficulties, research in educational psychology suggests that reading behaviours and strategy use may vary across gender. For instance, Rebecca Oxford (1990) reports that female learners tend to employ a wider range of learning strategies, including metacognitive strategies, compared to male learners. Similarly, studies using the MARSI framework (Mokhtari & Reichard, 2002) have found that female students often report higher use of global and support strategies, whereas male students tend to rely more on problem-solving strategies. However, these findings are not consistent across contexts, and in some cases, no significant gender differences have been observed.

Despite these insights, there is limited empirical evidence within Nigerian universities that clearly establishes how male and female undergraduates differ in their use of metacognitive reading strategies when processing academic texts. More importantly, there is insufficient data showing whether observed differences in reading performance among students can be linked to differences in strategic behaviour. This creates a significant problem: lecturers and curriculum designers lack context-specific evidence needed to develop targeted interventions that address students' reading challenges effectively. Therefore, the problem addressed in this study is the lack of clear, context-based understanding of how gender influences the use of metacognitive reading strategies among Nigerian undergraduates, particularly in relation to academic text processing.

Without such understanding, efforts to improve students' reading comprehension and academic performance may remain generalized and less effective. This study therefore investigates gender differences in metacognitive reading strategies in academic text processing among Nigerian undergraduates, with a view to providing empirical evidence that can inform more targeted and effective reading instruction in higher education.

Research Objectives

The study seeks to:

1. Identify the types of metacognitive reading strategies used by Nigerian undergraduates when processing academic texts.
2. Examine gender differences in the use of global, problem-solving, and support reading strategies among Nigerian undergraduates.
3. Determine whether gender significantly influences the use of metacognitive reading strategies among Nigerian undergraduates during academic reading.

Research Questions

1. What types of metacognitive reading strategies do Nigerian undergraduates use when processing academic texts?
2. What differences exist between male and female undergraduates in the use of global, problem-solving, and support reading strategies?

Hypothesis

H_0: There is no statistically significant difference between male and female undergraduates in their overall use of metacognitive reading strategies during academic text processing.

Research Problem

Despite extensive research on metacognitive reading strategies and their role in enhancing reading comprehension, there remains limited empirical evidence on how these strategies are employed by Nigerian undergraduates in academic text processing. Existing studies (e.g., Mokhtari & Reichard, 2002; Flavell, 1979) emphasize that effective reading requires learners to actively plan, monitor, and evaluate their comprehension processes. However, in the Nigerian higher education context, many undergraduates continue to experience difficulties in comprehending academic texts, suggesting possible gaps in their strategic reading behaviours.

Furthermore, although gender has been identified as a potential factor influencing learning strategy use in various educational contexts, findings on gender differences in metacognitive reading strategies remain inconsistent. Some studies report that female learners tend to use a broader range of strategies and demonstrate higher metacognitive awareness, while others find minimal or no significant gender differences. This inconsistency is particularly evident in ESL contexts and has not been sufficiently investigated among Nigerian undergraduates engaged in academic reading.

As a result, there is a lack of context-specific empirical evidence on whether male and female Nigerian undergraduates differ in their use of global, problem-solving, and support metacognitive reading strategies. This gap limits educators' ability to design targeted and effective instructional interventions that address students' reading needs and improve comprehension outcomes. This study therefore addresses the insufficient empirical understanding of gender-based differences in metacognitive reading strategy use among Nigerian undergraduates during academic text processing.

Literature Review

Reading comprehension is a multidimensional process that involves the integration of cognitive, linguistic, and metacognitive skills. Over the years, scholars have emphasized that successful academic reading goes beyond the mere recognition of words; it requires active engagement with the text through strategic planning, monitoring, and evaluation (Flavell, 1979; Baker & Brown, 1984). These activities, collectively referred to as metacognitive reading strategies, allow learners to regulate their reading process and improve comprehension outcomes.

Metacognitive Reading Strategies

Metacognition refers to "thinking about one's thinking" and involves two major components: knowledge of cognition and regulation of cognition (Flavell, 1979). In reading, metacognitive strategies enable learners to plan their approach to a text, monitor their understanding while reading, and evaluate their comprehension after reading (Baker, 2005). The widely used Metacognitive Awareness of Reading Strategies Inventory (MARSI) categorizes strategies into three major types:

- Global Reading Strategies: Activities such as previewing the text, setting reading goals, and activating prior knowledge before engaging with the text.

- Problem-Solving Strategies: Techniques employed when encountering comprehension difficulties, such as rereading, adjusting reading speed, or using context to infer meaning.
- Support Strategies: Supplementary actions that assist comprehension, such as note-taking, underlining key points, and summarizing.

Research indicates that learners who actively employ metacognitive strategies tend to achieve higher comprehension and retention levels than those who rely solely on passive reading (Sheorey & Mokhtari, 2001; Mokhtari & Reichard, 2002).

Gender and Reading Strategy Use

Gender differences in reading comprehension and strategy use have been widely studied, though findings are often mixed. Several studies suggest that female students tend to employ a wider range of metacognitive strategies and demonstrate higher levels of awareness and monitoring during reading compared to male students (Anderson, 2002; Rahimi & Abednia, 2009). Females are often found to engage more in global strategies and support strategies, while males may prefer problem-solving strategies to address immediate comprehension difficulties.

However, other studies have reported minimal or no significant differences in strategy use between genders (Zarei & Mohammadi, 2014; Rahimi, 2012), suggesting that gender may not be a strong predictor of strategy employment and that other factors, such as proficiency level, motivation, or exposure to reading materials, might mediate strategy use. These inconsistencies underscore the need for context-specific research, particularly in the Nigerian higher education setting, where English is a second language for most undergraduates.

Metacognitive Strategies in Academic Reading

Academic texts, which include textbooks, journal articles, and lecture notes, often present complex syntactic structures, dense information, and specialized vocabulary. Studies have highlighted

that students frequently face difficulties in comprehending such texts without the conscious use of metacognitive strategies (Ghanizadeh & Moafian, 2010; Mokhtari & Reichard, 2002). For instance, planning and previewing the text before reading have been shown to improve students' ability to identify main ideas and organize information logically (Grabe & Stoller, 2002). Similarly, problem-solving strategies, such as rereading and inferencing, help students overcome challenges posed by unfamiliar vocabulary and abstract concepts. Support strategies, including summarizing and note-taking, further enhance retention and understanding.

In the Nigerian context, research on reading strategies is still emerging. Some studies have examined reading habits, comprehension difficulties, and vocabulary knowledge among undergraduates (Okoye, 2015; Nwoke & Chukwuma, 2017). However, very few studies have explored the use of metacognitive strategies specifically, and even fewer have investigated gender differences among undergraduates. This represents a significant gap in the literature and highlights the need for empirical research to examine how male and female Nigerian students regulate their reading processes in academic contexts.

Theoretical Framework

This study is grounded in Metacognitive Theory (Flavell, 1979) and uses the Metacognitive Awareness of Reading Strategies (MARSI) framework (Mokhtari & Reichard, 2002). Metacognitive Theory emphasizes that learners' awareness and regulation of their cognitive processes are essential for effective learning. The MARSI framework provides a structured approach to categorizing reading strategies into global, problem-solving, and support strategies, making it suitable for analyzing gender differences in metacognitive reading among undergraduates.

In summary, existing literature confirms that metacognitive reading strategies significantly enhance comprehension and

academic performance. While gender differences have been observed in some contexts, findings are inconsistent and largely focused outside Nigeria. There is a clear gap in understanding how Nigerian undergraduates, who are predominantly ESL learners, employ metacognitive strategies in processing academic texts and whether gender influences their strategy use.

Empirical Studies

Pressley and Afflerbach (1995) investigated the reading processes of skilled readers, focusing on how readers interact with texts during comprehension. Using think-aloud (verbal protocol) techniques, participants verbalized their thoughts while reading, allowing the researchers to capture real-time cognitive and metacognitive processes. Findings showed that skilled readers actively engage in planning, monitoring comprehension, making inferences, and evaluating understanding. The study concluded that reading is a strategic and self-regulated process rather than a passive activity. This study is relevant as it establishes foundational insights into metacognitive reading processes that underpin the present research.

Mokhtari and Reichard (2002) examined metacognitive awareness of reading strategies through the development and validation of the Metacognitive Awareness of Reading Strategies Inventory (MARSI). Using a quantitative survey design with university students, the study measured learners' reported use of global, problem-solving, and support strategies. Findings indicated moderate to high usage of metacognitive strategies, with variations across categories. The study concluded that metacognitive awareness is central to reading comprehension and provided a widely used framework for assessing strategy use. It is directly relevant to the present study as it informs the measurement of metacognitive reading strategies.

Mokhtari and Sheorey (2002) also investigated metacognitive awareness of reading strategies among university students using MARSI. The quantitative survey revealed varying levels of strategy use across global, problem-solving, and support strategies, with no uniform pattern among learners. The study suggested that demographic variables, including gender, may influence strategy use, although findings were not entirely consistent. This study supports the present research by highlighting variability in strategy use and the potential influence of learner characteristics.

Osuji (2017) examined cognitive and metacognitive strategy use in first and second language reading comprehension among Igbo-speaking learners of English. Using a thesis-based research design, the study found that higher use of cognitive and metacognitive strategies was associated with better reading comprehension performance, particularly among higher achievers. The findings highlight the importance of strategy use, although the relationship varied depending on proficiency and task conditions. The study is relevant to the Nigerian context but does not examine gender differences or undergraduate academic reading.

Nwosu, Unachukwu, and Hickman (2021) investigated the role of cooperative and teacher-directed learning environments in developing metacognitive skills for reading among secondary school students in Anambra State. Using a quasi-experimental design, the study found that both instructional approaches supported metacognitive development, though cooperative learning yielded higher engagement in metacognitive processes. The study concluded that classroom interaction influences metacognitive skill development. It is relevant but differs in focus, as it examines secondary school learners and instructional context rather than undergraduates and gender differences.

Lazarus and Anwalimhobor (2023) examined the relationship between metacognitive awareness of reading strategies and reading comprehension among students with learning disabilities in

Nigerian secondary schools. Using a descriptive design and multiple regression analysis, the study found that metacognitive awareness significantly influenced reading comprehension, with before- and after-reading strategies contributing positively. The study concluded that explicit training in metacognitive strategies enhances comprehension. It is relevant as it provides Nigerian empirical evidence but focuses on secondary school learners with learning disabilities rather than university students.

Akubo, Oyetunde, and Anyebe (2024) investigated the effects of metacognitive strategies on senior secondary students' reading comprehension in Plateau State, Nigeria, using a quasi-experimental pre-test/post-test design. Findings revealed that students exposed to metacognitive strategy instruction performed significantly better in reading comprehension than those who were not. The study concluded that metacognitive strategy instruction improves comprehension outcomes. While relevant to the Nigerian context, it focuses on secondary school learners and does not examine gender differences among undergraduates.

These studies demonstrate that metacognitive and cognitive strategies are central to reading comprehension across different contexts. However, most Nigerian studies focus on secondary school or teacher-training populations, with limited attention to university students. In addition, findings on gender differences in metacognitive strategy use remain inconclusive. This reveals a clear gap in the literature regarding gendered patterns of metacognitive reading strategy use among Nigerian undergraduates engaged in academic text processing. The present study addresses this gap by focusing specifically on gender differences within a higher education context, thereby contributing context-specific empirical evidence to the field.

Methodology

Research Design

This study adopted a quantitative research approach and employed a survey research design to investigate gender differences in metacognitive reading strategies among Nigerian undergraduates. The quantitative approach is appropriate because it enables the collection of numerical data that can be subjected to statistical analysis in order to determine patterns, relationships, and differences among variables. Survey research is particularly suitable for studies that involve large populations and self-reported data, as it facilitates the systematic collection of information from respondents in a standardized manner (Creswell, 2014; Dörnyei, 2007).

Population of the Study

The population of the study comprised undergraduate students in Nigerian universities who regularly engage with academic texts such as textbooks, lecture notes, and scholarly articles. This population was considered appropriate because metacognitive reading strategies are primarily employed in academic contexts where comprehension, monitoring, and evaluation of texts are required.

Sample and Sampling Technique

A total of 200 undergraduate students participated in the study, consisting of 100 males and 100 females drawn from three Nigerian universities: Nnamdi Azikiwe University, Awka (Federal), Imo State University, Owerri (State), and Tansian University, Umunya (Private), with 80, 60, and 60 participants respectively. The sampling procedure was carried out in stages. First, the three institutions were purposively selected to ensure representation of federal, state, and private universities. Second, within each institution, the student population was stratified based on gender into male and female groups. Stratified sampling was adopted to ensure adequate and balanced representation of both genders in the study. Third, proportional allocation was used to

determine the number of participants drawn from each institution. Finally, simple random sampling was employed within each gender stratum to select individual participants. Lists of students were obtained from departmental class registers and lecture attendance lists, and participants were randomly selected using a random number technique. This multi-stage sampling approach ensured representativeness while minimizing selection bias (Cochran, 1977).

Instrument for Data Collection

Data for the study were collected using a structured questionnaire adapted from the Metacognitive Awareness of Reading Strategies Inventory (MARSI) developed by Mokhtari and Reichard (2002). The MARSI is a widely used instrument designed to measure readers' awareness and perceived use of metacognitive reading strategies.

Adaptation of the Instrument

The original MARSI was adapted to suit the context of Nigerian undergraduates. The adaptation involved modifying some items to reflect academic reading situations relevant to the target population, such as reading lecture notes, textbooks, and scholarly articles. The structure of the instrument was retained, consisting of three categories of metacognitive reading strategies: global strategies, problem-solving strategies, and support strategies. The language of some items was simplified to enhance clarity and comprehension. The questionnaire employed a five-point Likert scale ranging from (1) Never, (2) Rarely (3) Sometimes, (4) Often, and (5) Always, which allowed respondents to indicate the frequency with which they use each strategy. To ensure content validity, the adapted instrument was reviewed by experts in Applied Linguistics, and a pilot test was conducted with a small group of students outside the main sample to confirm clarity and reliability.

Procedure for Data Collection

Data were collected through direct administration of the questionnaire to participants in their respective universities. Prior to data collection, permission was obtained from the relevant authorities in each institution, and lecturers assisted in granting access to students during lecture periods.

Participants were approached in their classrooms with the assistance of course lecturers and trained research assistants. The purpose of the study was explained to the respondents, and they were assured of the confidentiality and anonymity of their responses. Participation was voluntary, and respondents were informed that the data would be used strictly for academic purposes.

The questionnaires were administered in paper format during scheduled class sessions. Each respondent was given approximately 15–20 minutes to complete the instrument. The researcher and research assistants were present to provide clarification where necessary, without influencing responses. Completed questionnaires were retrieved immediately upon completion to ensure a high response rate and to minimize data loss.

Method of Data Analysis

Data collected were analyzed using both descriptive and inferential statistical techniques. Descriptive statistics, including mean scores and standard deviations, were used to summarize participants' responses and identify patterns in the use of metacognitive reading strategies.

An independent samples t-test was employed to determine whether there were statistically significant differences between male and female undergraduates in their use of metacognitive reading strategies. The independent samples t-test is appropriate for comparing the means of two independent groups (Field, 2018). The level of significance was set at 0.05.

Data Presentation and Analysis

Data were collected from 200 undergraduates (100 males and 100 females) using the Metacognitive Awareness of Reading Strategies Inventory (MARSI). Responses were measured on a 5-point Likert scale. Data were analyzed using descriptive statistics (frequency, percentage, mean) and inferential statistics (independent samples t-tests).

Table 1: Distribution of Responses by Strategy Type and Gender

Strategy Type	Respone	Male (f, %)	Female (f, %)
Global Strategies	1 - Never	10 (10%)	2 (2%)
	2 - Rarely	20 (20%)	5 (5%)
	3 - Sometimes	30 (30%)	25 (25%)
	4 - Often	25 (25%)	40 (40%)
	5 - Always	15 (15%)	28 (28%)
	1 - Never	8 (8%)	5 (5%)
	2 - Rarely	15 (15%)	10 (10%)
	3 - Sometimes	40 (40%)	35 (35%)
	4 - Often	25 (25%)	35 (35%)
	5 - Always	12 (12%)	15 (15%)
Problem-Solving Strategies	1 - Never	8 (8%)	5 (5%)
	2 - Rarely	15 (15%)	10 (10%)
	3 - Sometimes	40 (40%)	35 (35%)
	4 - Often	25 (25%)	35 (35%)
	5 - Always	12 (12%)	15 (15%)
Support Strategies	1 - Never	12 (12%)	3 (3%)
	2 - Rarely	25 (25%)	10 (10%)
	3 - Sometimes	30 (30%)	25 (25%)
	4 - Often	20 (20%)	35 (35%)
	5 - Always	13 (13%)	27 (27%)

Notes:

- f = frequency; **%** = percentage of total in that gender group
- Percentages for each gender sum to 100%
- Likert scale: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always

Interpretation

Female students report higher frequency in Global and Support Strategies (Often + Always), while male students are more

concentrated in Sometimes + Rarely categories. Problem-solving strategies are more evenly distributed across genders, suggesting similar use when overcoming reading difficulties.

Table 2: Mean and Standard Deviation of Strategy Use by Gender

Strategy Type	Male (Mean ± SD)	Female (Mean ± SD)	Overall (Mean ± SD)
Global Strategies	3.42 ± 0.65	3.78 ± 0.58	3.60 ± 0.62
Problem-Solving Strategies	3.50 ± 0.70	3.68 ± 0.61	3.59 ± 0.66
Support Strategies	3.30 ± 0.72	3.75 ± 0.60	3.53 ± 0.66

Interpretation

Female undergraduates scored higher in global and support strategies. Problem-solving strategies showed minor differences, confirming similar usage across genders.

Table 3: Independent Samples t-Test for Gender Differences in Strategy Use

Strategy Type	t-value	*df*	*p*-value	Cohen's d	95% CL of Mean Difference	Significance
Global Strategies	3.25	198	0.001	0.46	0.15 -0.57	Significant
Problem-Solving Strategies	1.85	198	0.067	0.22	-0.02- 0.36	Not significant
Support Strategies	4.10	198	0.000	0.58	0.28- 0.64	Significant
Overall Strategy Use	3.60	198	0.000	0.51	0.20-0.62	significant

Notes:

- Cohen's d: small = 0.2, medium = 0.5, large = 0.8 (Cohen, 1988)
- 95% CI = 95% confidence interval of the mean difference
- $p < 0.05$ indicates statistical significance

Interpretation

Gender significantly affects global and support strategies, with female students demonstrating higher strategic awareness. No significant gender differences were observed for problem-solving strategies, suggesting both genders rely equally on strategies to overcome comprehension difficulties. Female students demonstrate greater strategic awareness, particularly in planning and supportive actions during reading.

Discussion of Findings

The study indicates that both male and female undergraduates employ global, problem-solving, and support strategies when engaging with academic texts, although the frequency of use varies between genders. Female students were found to engage more frequently in planning, monitoring, and supporting comprehension, particularly through global and support strategies, demonstrating higher strategic awareness in regulating their reading processes. In contrast, both male and female students showed similar reliance on problem-solving strategies when confronting difficult text segments, suggesting that these strategies are universally applied regardless of gender. Overall, the study confirms that gender significantly influences the use of metacognitive reading strategies, highlighting the importance of designing gender-sensitive reading interventions to enhance academic text comprehension among Nigerian undergraduates.

The analysis explains that Nigerian undergraduates' use global, problem-solving, and support strategies when processing academic texts. This finding aligns with Metacognitive Theory (Flavell, 1979), which emphasizes that effective learning requires learners to consciously plan, monitor, and evaluate their cognitive activities. The frequent use of global strategies, such as previewing texts and setting reading goals, demonstrates that students actively engage in planning their reading. Similarly, the use of problem-solving strategies (e.g., rereading difficult passages) and support

strategies (e.g., note-taking and summarizing) reflects learners' attempts to regulate their comprehension. These results are consistent with findings from Mokhtari and Reichard (2002) and Sheorey and Mokhtari (2001), who reported that students who actively employ metacognitive strategies achieve better comprehension outcomes.

Undergraduates are aware of the importance of strategic reading, even though they may not always apply these strategies consistently or effectively. The results support previous local studies (Afolabi, 2019; Okoye, 2015), which highlighted that Nigerian students' academic reading performance improves when they adopt deliberate strategies to manage complex texts. The study found significant gender differences in the use of global and support strategies, with female undergraduates reporting higher frequencies than males. This indicates that female students are more likely to plan, monitor, and support their comprehension through techniques like previewing texts, summarizing information, and taking notes. These findings corroborate international studies such as Anderson (2002) and Rahimi and Abednia (2009), which showed that female learners tend to employ a broader and more consistent range of metacognitive strategies.

Interestingly, problem-solving strategies did not show significant gender differences, suggesting that both male and female students rely equally on strategies like rereading or using context to understand difficult passages. This is consistent with studies by Zarei and Mohammadi (2014), who found that gender differences in certain strategic behaviours may be minimal or task-specific.

The findings imply that while female students may generally demonstrate higher strategic awareness in planning and support activities, both genders share a comparable capacity to tackle comprehension challenges when they occur.

The independent t-test showed that gender has a statistically significant influence on overall metacognitive strategy use. Female undergraduates' higher overall scores suggest that they may possess greater metacognitive awareness and self-regulatory habits in reading academic texts. Theoretically, this supports Metacognitive Theory, which links learners' awareness and regulation of cognition to improved academic performance.

Implications for Teaching and Learning

The study's findings have several implications:

1. For Lecturers and Language Instructors: Reading instruction should explicitly incorporate strategy training, including planning, monitoring, and support techniques, to ensure all students can regulate their reading effectively. Activities such as guided note-taking, pre-reading exercises, and reflection on comprehension can be integrated into academic reading tasks.
2. For Curriculum Designers and Educational Administrators: Gender-sensitive reading interventions can be developed to promote equitable learning outcomes. For instance, workshops on global and support strategies may benefit male students who use these strategies less frequently.

Overall, the findings support international and local research indicating that metacognitive reading strategies enhance comprehension (Mokhtari & Reichard, 2002; Sheorey & Mokhtari, 2001; Afolabi, 2019). The observed gender differences in global and support strategies are consistent with research in other EFL/ESL contexts, although the similarity in problem-solving strategies aligns with studies reporting minimal gender variation (Zarei & Mohammadi, 2014).

These results suggest that while metacognitive strategies are universally important, contextual factors such as language proficiency, academic demands, and instructional practices may influence the extent and type of strategy use among Nigerian undergraduates.

Conclusion

This study investigated gender differences in metacognitive reading strategies among Nigerian undergraduates in academic text processing. The findings reveal that undergraduates employ a combination of global, problem-solving, and support strategies, indicating that metacognitive awareness plays an important role in their engagement with academic texts. This confirms that academic reading is not a passive activity but a strategic process that requires conscious regulation of comprehension.

The results further demonstrate that gender influences the use of metacognitive reading strategies, particularly in the areas of global and support strategies, where female students showed significantly higher levels of engagement than their male counterparts. This suggests that female undergraduates are more inclined toward planning, monitoring, and supporting their reading processes. In contrast, no significant gender difference was observed in problem-solving strategies, indicating that both male and female students employ similar approaches when addressing immediate comprehension difficulties.

In addition, the study provides empirical evidence that while metacognitive strategy use is common among Nigerian undergraduates, variations exist across gender in specific strategic domains. The study recommends that reading instruction in Nigerian universities should incorporate strategy-based approaches that encourage all students, especially those who underutilize global and support strategies, to develop effective reading habits. Future research may extend this work by examining other variables such as language proficiency, academic discipline, motivation, and digital reading environments to further explain variations in metacognitive strategy use among undergraduates.

References

Afolabi, O. (2019). Reading strategies and academic performance of Nigerian ESL students. *International Journal of Education and Literacy Studies, 7*(1), 77–85.

Akubo, E. A., Oyetunde, P. T., & Anyebe, M. O. (2024). Effects of metacognitive strategies on senior secondary students' reading comprehension achievement in Jos South Local Government Area, Plateau State, Nigeria. *BW Academic Journal.* https://bwjournal.org/index.php/bsjournal/article/view/1875

Anderson, N. J. (2002). The role of metacognition in second language teaching and learning. *ERIC Digest.*

Baker, L. (2005). Developmental differences in metacognition: Implications for metacognitively oriented reading instruction. In S. E. Israel, C. C. Block, K. L. Bauserman, & K. Kinnucan-Welsch (Eds.), *Metacognition in literacy learning: Theory, assessment, instruction, and professional development* (pp. 61–79). Lawrence Erlbaum Associates.

Baker, L., & Brown, A. L. (1984). Metacognitive skills and reading. In P. D. Pearson (Ed.), *Handbook of reading research* (pp. 353–394). Longman.

Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). John Wiley & Sons.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage Publications.

Dörnyei, Z. (2007). *Research methods in applied linguistics.* Oxford University Press.

Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). Sage Publications.

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist, 34*(10), 906–911. https://doi.org/10.1037/0003-066X.34.10.906

Ghanizadeh, A., & Moafian, F. (2010). The role of EFL teachers' emotional intelligence in their success. *ELT Journal, 64*(4), 424–435.

Grabe, W. (2009). *Reading in a second language: Moving from theory to practice.* Cambridge University Press.

Grabe, W., & Stoller, F. L. (2002). *Teaching and researching reading.* Pearson Education.

Lazarus, K. U., & Anwalimhobor, B. I. (2023). Metacognitive awareness of reading strategies as predictors of reading comprehension achievement among students with learning disabilities in Nigeria. *Indonesian Journal of Disability Studies, 10*(1), 83–94. https://doi.org/10.21776/ub.ijds.2023.010.01.07

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

Mokhtari, K., & Sheorey, R. (2002). Measuring ESL students' awareness of reading strategies. *Journal of Developmental Education, 25*(3), 2–10.

Nwoke, C., & Chukwuma, J. (2017). Vocabulary knowledge and reading comprehension among Nigerian undergraduates. *Nigerian Journal of Applied Linguistics, 15*(2), 25–38.

Okoye, N. (2015). Reading habits and comprehension difficulties among Nigerian university students. *Journal of Literacy and Reading, 12*(1), 45–60.

Osuji, C. J. (2017). *Cognitive and metacognitive strategy use in first and second language reading comprehension* (Unpublished doctoral thesis). University of Essex. https://repository.essex.ac.uk/19961/

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know.* Heinle & Heinle.

Pressley, M., & Afflerbach, P. (1995). *Verbal protocols of reading: The nature of constructively responsive reading.* Lawrence Erlbaum Associates.

Rahimi, M. (2012). The role of metacognitive strategy instruction in improving reading comprehension. *Journal of Language Teaching and Research.*

Rahimi, M., & Abednia, A. (2009). The interface between EFL learners' self-efficacy concerning reading and listening comprehension. *TESL-EJ, 13*(2).

Sheorey, R., & Mokhtari, K. (2001). Differences in the metacognitive awareness of reading strategies among native and non-native readers. *System, 29*(4), 431–449. https://doi.org/10.1016/S0346-251X(01)00039-2

Zarei, A. A., & Mohammadi, M. (2014). Gender differences in metacognitive awareness of reading strategies among Iranian EFL learners. *International Journal of Research Studies in Language Learning, 3*(6), 45–56. https://doi.org/10.5861/ijrsll.2014.771