SCRIPT JOURNAL
Journal of Linguistic and English Teaching
http://jurnal.fkip-uwgm.ac.id/index.php/Script
P-ISSN: 2477-1880; E-ISSN: 2502-6623
April 2026, Vol. 11 No. 1

Strategies for Reading Online Academic Texts: A Comparative Qualitative Study Of High- and Low-English Reading Proficiency Learners

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Abstract

Background:
This study explored how students with high and low English reading proficiency employed online reading strategies when engaging with academic texts. It focused on sixth-semester of undergraduate students in Kalimantan Island. Guided by metacognitive theory, which highlights learners' ability to monitor and regulate reading processes, this study addressed the growing importance of online academic reading in higher education.

Methodology:
A comparative qualitative design was employed. Six students were purposively selected based on their TOEFL reading scores to represent different proficiency levels. Data were gathered through semi-structured interviews and analyzed thematically to identify strategy use, reasons behind their choices, and the difficulties encountered.

Findings:
Students applied global, problem-solving, and support strategies differently based on proficiency. High-proficiency students read with clear goals, adjusted pace, and used contextual clues. Low-proficiency students focused on task completion, avoided long texts, and depended on external tools. While both slowed down when necessary, high-proficiency students showed more control. In support strategies, high-proficiency students used selective notes and minimal translation, while low-proficiency students relied on full translation.

Conclusion:
Strategy use was shaped by reading habits, learning experience, and proficiency level. Common difficulties included eye strain and lengthy texts, while vocabulary and technical problems varied. These findings highlight the need for proficiency-sensitive strategy instruction that also supports effective use of digital reading tools and helps students manage screen-based reading challenges.

Originality:
This study fills a gap by comparing online reading strategies across proficiency levels in academic contexts. It provides insight into how cognitive and contextual factors shape digital reading behavior.

Keywords	:	global strategies; online reading strategies; problem-solving strategies; reading difficulties; support strategies
DOI	:	10.24903/sj.v11i1.2179
Received	:	August 2025
Accepted	:	February 2026
Published	:	April 2026
How to cite this article (APA)	:	Febiyani, F., Iswari, W.P., Ping, M.T., Susilo, S., Rachmawaty, N., & Syamdianita, S. (2026). Strategies for Reading Online Academic Texts: A Comparative Qualitative Study Of High- and Low-English Reading Proficiency Learners. *Script Journal: Journal of Linguistic and English Teaching*, 11(1), 21-40. https://doi.org/10.24903/sj.v11i1.2179

1. INTRODUCTION

Reading is a fundamental cognitive skill essential for academic achievement and lifelong learning. It is a complex activity involving both cognitive and metacognitive processes, allowing readers to decode symbols, construct meaning, and critically evaluate written information (Farid et al., 2020). Reading not only facilitates knowledge acquisition but also enhances critical thinking and communication, making it indispensable in both educational and everyday contexts (Oakhill et al., 2019; Pandey, 2023).

In the digital era, the practice of reading has shifted significantly from printed texts to digital formats. Technological advancements have transformed how students consume and process information, making online reading a regular part of academic life. Students now engage with academic materials through websites, e-books, and online platforms, which offer convenience and accessibility but also present new challenges (Hartati et al., 2022; Peras et al., 2023). Online reading requires readers to navigate hypertexts, manage screen fatigue, and evaluate the credibility of diverse sources, all of which demand specific strategies for effective comprehension (Riddell, 2019; Rahman et al., 2023).

Reading strategies are intentional, goal-directed techniques that support comprehension. These include cognitive and metacognitive strategies such as summarizing, predicting, questioning, and monitoring (Farsani & Ghyasi, 2013; Pozdeeva & Sobinova, 2015). Mokhtari and Sheorey (2002) categorized reading strategies into three types: global reading strategies (GLOB), problem-solving strategies (PROB), and support strategies (SUP). GLOB strategies involve planning and setting reading purposes, PROB strategies help overcome comprehension difficulties, and SUP strategies include note-taking or using dictionaries to aid understanding. These strategies are especially important in online contexts, where digital texts differ in structure and format from print-based materials (Anderson, 2003; Habók et al., 2024).

Several factors influence students' use of reading strategies, including language proficiency, gender, field of study, academic year, and text type (Li et al., 2024). Among these, proficiency is one of the most significant. High-proficiency readers tend to employ a wider range of effective strategies, adjust their reading approaches flexibly, and engage with texts more critically (Denton et al., 2015; Prichard, 2014). In contrast, low-proficiency readers often struggle with vocabulary, sentence structure, and inferencing, limiting their strategic engagement with texts (Thuy, 2021).

Online reading introduces unique difficulties that are less common in traditional reading. These include screen-related discomfort, distraction from hyperlinks, information

overload, and unreliable internet connections (Harputra et al., 2023; Rahayu, 2024). Additionally, evaluating the credibility of digital sources and managing fragmented reading experiences adds further complexity (Pookcharoen, 2009). As academic texts are typically more complex in structure and language, these difficulties may be amplified for less proficient students (Anwar & Sailuddin, 2022; Sohail, 2016).

Despite the growing body of research on online reading strategies (e.g., Habók et al., 2024; Raja Yacob & Mohamad, 2024; Rianto, 2021), few studies provide an in-depth qualitative examination of how students from different proficiency levels employ these strategies, why they choose specific strategies, and what difficulties they encounter. Much of the existing evidence is based on large-scale quantitative surveys, which capture frequencies and broad patterns but cannot fully explain the cognitive processes, contextual factors, and moment-to-moment decision-making involved in online reading. As a result, these quantitative findings often offer limited insight into how and why strategies are applied in real digital reading situations, making them less convincing for drawing nuanced conclusions about online reading behavior across proficiency levels. Most existing studies rely on quantitative methods and focus on general patterns without exploring the lived experiences of readers. A notable exception is the work by Pookcharoen, (2009) which showed that proficient and less proficient readers differ not only in strategy frequency but also in flexibility and awareness.

In light of these gaps, this study aims to explore how high- and low-proficiency undergraduate students comprehend online academic texts by examining their reading strategies, reasons for strategy use, and perceived difficulties. The participants are sixth-semester English Department students at one of private university in Kalimantan Timur, where online reading is an integral part of their academic reading course. This context was chosen because these students routinely engage with digital academic texts, making them a relevant and information-rich group for exploring online reading strategies. Additionally, they have completed several reading-focused courses, allowing them to reflect on their strategic behaviors with sufficient experience. This setting provides an appropriate context for understanding how online reading strategies are applied in real academic tasks. By focusing on the contrast between high- and low-proficiency groups, this study offers valuable insights into how reading proficiency affects students' strategic reading behavior in a digital environment. This study addresses the following research questions:

1. How do high- and low-English proficiency students employ reading strategies when reading online academic texts?

2. What are the reasons behind the use of online reading strategies among high- and low-proficiency students?
3. What are the perceived difficulties experienced by high- and low-proficiency students when reading online academic texts?

2. METHODOLOGY

To understand how undergraduate students navigate online academic reading, this study adopted a comparative qualitative design. While the research was conducted within a single bounded context, sixth-semester English Department students at one of private university in Kalimantan Timur, the primary unit of analysis involved comparing two distinct groups of learners: high-proficiency and low-proficiency readers. This approach enabled the researcher to explore participants' lived experiences, strategic behaviors, and the contextual factors influencing their reading processes. A comparative qualitative design was considered suitable as it allowed an in-depth focus on a specific group, sixth-semester English Department students at one of private university in Kalimantan Timur, who regularly engage with academic texts through digital platforms such as BritishCouncil and OpenLearning.

In line with the qualitative nature of the study, participant selection followed a purposive criterion sampling strategy. Six students were selected based on their TOEFL reading section scores. To ensure replicability, clear score ranges were used to define proficiency groups. Students scoring ≥44 on the TOEFL reading section were categorized as high-proficiency, while those scoring ≤43 were categorized as low-proficiency. Three highest scorers formed the high-proficiency group, and three lowest scorers formed the low-proficiency group. All participants had taken the TOEFL at the beginning of the semester, completed an academic reading course, and were willing to participate. This purposeful selection aimed to create a clear contrast between proficiency levels to facilitate meaningful comparison. To ensure the ethical consideration, all subjects gave their informed consent for inclusion before they participated in the study.

To gather rich qualitative insights, this study employed two key instruments: TOEFL reading scores and a semi-structured interview protocol. The TOEFL scores served as objective indicators of reading proficiency and formed the basis for selecting participants from both the high- and low-proficiency groups. The semi-structured interviews were the primary instrument used to address all three research questions. Specifically, the interviews explored how students employed online reading strategies when engaging with academic texts, why they chose certain strategies, including the personal, academic, and contextual factors influencing their choices,

and what they encountered during online academic reading. This instrument allowed the researcher to probe students' strategic behaviors, their underlying reasoning, and the challenges shaping their online academic reading experiences.

A systematic procedure guided the data collection process. First, official TOEFL reading section scores were retrieved to identify eligible participants according to the predefined score ranges. After obtaining informed consent, two rounds of semi-structured interviews were conducted in person with each participant, scheduled based on their availability. All interviews were audio recorded and later transcribed verbatim. To enhance the trustworthiness of the data, member checking was employed by sharing transcripts with participants for verification and clarification.

Following data collection, a rigorous analytical process was undertaken to identify key patterns and themes. Thematic analysis, as outlined by Braun and Clarke (2006) was used to interpret the qualitative interview data through coding, theme development, and refinement. The analysis allowed the researcher to compare how high- and low-proficiency students approached online academic reading. By integrating insights from both sources, the analysis provided a comprehensive understanding of how high- and low-proficiency students engage with online academic reading strategies.

3. FINDINGS

3.1 The way High- and Low-Proficiency Students Employ Reading Strategies When Reading Online Academic Texts

Mokhtari and Sheorey (2002) categorize online reading strategies into global, problem-solving, and support strategies. In this study, both high- and low-proficiency students employed various strategies across these three categories. However, the way these strategies were applied differed significantly between the two groups. High proficiency students demonstrated deliberate, conscious, and goal-oriented reading behaviors, integrating strategies fluidly to aid comprehension. Conversely, low proficiency students exhibited more reactive and task-driven approaches, often limited by linguistic and cognitive constraints.

Table 1 The Way High and Low Proficiency Students Employ Online Reading Strategies

Category	High Proficiency students	Low proficiency students
Global reading strategies	Read by goal and interest	Read to finish assignments
	Check relevance before reading	Read if seems directly useful
	Adjust reading for long texts	Avoid or skim long texts
	Focus on key sections only	Read main parts selectively
	Guess meanings using sentence context	Depend on tools for meaning

	Scan sections to decide relevance	Jump to conclusions quickly
Problem solving strategies	Read slowly to understand deeply	Read slowly to grasp meaning.
	Control environment and take breaks breaks to restore focus.	switch activities to regain focus.
	Adapt speed based on text difficulty	Slow down for difficult sections
	Reread key parts from different angles	Highlight and reread difficult parts
	Visualizing for deeper understanding.	Visualize content for better grasp
Support reading strategies	Take notes selectively for key points	Take frequent notes to aid memory
	Paraphrase complex sentences to clarify	Paraphrase mainly when confused
	Translate selectively	Depend on full translation

The findings in Table 1 reveal clear distinctions in how high- and low-proficiency students employ online reading strategies, particularly within the categories of global, problem-solving, and support strategies. In terms of global reading strategies, high-proficiency students approached online reading with clear goals and personal interest. They carefully selected texts by evaluating titles and content relevance, adjusted their reading pace based on the length or complexity of the material, and focused on key sections to maximize comprehension and efficiency. For example, they often scanned the abstract or specific sections before deciding whether the material was worth reading in full *("I usually look at the abstract first. Then I go through the rest. I rarely look at the title." IT1/HPS2/L41-42/GLOB32).* They also relied on context within sentences to infer meanings of unfamiliar words rather than immediately resorting to external tools *"Usually, if I come across a word I don't understand, I look up its meaning first. Then I look for examples of texts that use that word and compare it with what I'm reading" IT1/HPS1/L92-95/GLOB20).* In contrast, low-proficiency students primarily read to fulfill assignment requirements rather than out of intrinsic motivation *("usually, it's just to look for assignments" IT1/LPS3/L14-16/GLOB1).* Their engagement was more surface-level, they tended to skim or skip lengthy texts, depended heavily on translators or AI tools for understanding unfamiliar vocabulary, and often jumped straight to conclusions to save time *("I search on Google or use a translator. I sometimes ask ChatGPT to translate the word and explain what it means." IT1/LPS1/L101-102/GLOB20)*.

In the use of problem-solving strategies, both groups demonstrated efforts to comprehend difficult texts, such as reading slowly and rereading challenging parts. High-proficiency students, however, were more strategic and reflective in their approach. They actively managed their reading environment to minimize distractions, took breaks to restore focus, and visualized complex information to aid deeper understanding. They also adjusted their reading speed with careful consideration of text difficulty and often reread content from different angles to ensure clarity. In contrast, low-proficiency students were more reactive in dealing with comprehension difficulties. While they also read slowly when needed, they tended to switch tasks or use external stimulation like music when distracted. Their rereading was usually aimed at regaining focus rather than refining understanding, and their visualizations were simpler, more intuitive responses rather than deliberate strategies.

Regarding support reading strategies, high-proficiency students displayed more selective and intentional behaviors. They took notes only on key information, paraphrased complex sentences to check for understanding, and used translation sparingly, only when necessary to clarify a specific part of the text. In contrast, low-proficiency students took more frequent notes as a way to aid memory and stay focused. They paraphrased primarily when confused rather than as a way to deepen understanding and relied heavily on full-text translations due to limited vocabulary and lower reading confidence. While both groups used similar support strategies, the high group applied them with more metacognitive control, while the low group used them as compensatory techniques to cope with comprehension difficulties.

Overall, high-proficiency students exhibited a greater degree of autonomy and strategic awareness in their online academic reading. Their use of strategies was purpose-driven and flexible, allowing them to navigate texts efficiently and deeply. In contrast, low-proficiency students employed many of the same strategies but in a more dependent, task-oriented manner. Their reading practices were often shaped by immediate academic demands and challenges in language proficiency, leading to less effective engagement with online academic texts.

3.2 The Reasons Behind the Use of Reading Strategies Among High and Low Proficiency Students When Reading Online Academic Texts

The second research questions of this study investigated the underlying reasons for online reading strategy use among high- and low-proficiency undergraduate students when reading academic texts. Through in-depth interviews, the analysis identified both overlapping and distinctive factors that influenced each group's choice of strategies. Common across both

groups were personal habits and learning experiences, suggesting a foundational influence in shaping reading behavior. However, high-proficiency students emphasized external influences and practical benefits, while low-proficiency students cited limited English proficiency and memory support as major reasons.

Table 2. Reasons for Online Reading Strategy Use Among High and Low Proficiency Students

High Proficiency Group	Low Proficiency Group
Personal Habits	Personal Habits
Learning Experience	Learning Experience
External Influences	Limited English Proficiency
Practical Benefits	Memory Support

The findings presented in Table 2 illustrate the reasons behind the use of online reading strategies among high- and low-proficiency students, showing both shared motivations and distinct differences between the two groups. For both groups, personal habits and learning experience emerged as common themes *("Actually, it's more about habit. I spend more time at home than outside, so the way I study or read is usually in my room, quietly. So, if you ask why I do it that way, it's because of my habits. IT1/HPS1/L117-119/RSN/PH, "It's just a habit. I've tried other methods, like just reading and trying to remember, but it's hard. So, I find that writing things down is the most effective method for me" IT1/LPS2/L103-105/RSN/PH)* High-proficiency students explained that their strategy choices were shaped by routines and preferences developed over time, often linked to studying in quiet, controlled environments and engaging in independent learning. One student, for instance, emphasized that reading in silence at home was a habitual practice that naturally influenced how they approached academic texts. Similarly, in contrast, low-proficiency students also pointed to habit as a driving force, but their habits were often formed through trial and error aimed at overcoming difficulty, such as the habit of writing things down to aid memory because other methods, like mental recall, were less effective for them.

Both groups also referred to learning experience as a key reason for using certain strategies. High-proficiency students highlighted their tendency to rely on self-guided learning tools like Google or YouTube instead of seeking help from others, suggesting a level of independence and digital literacy. In contrast, low-proficiency students also built their strategies based on past experience, but their approach was more focused on finding methods that worked for comprehension and retention, such as rewriting important parts of the text. Their reasoning emphasized practicality and coping with limitations rather than preference or efficiency.

A notable difference emerged in the third theme. High-proficiency students cited external influences, such as learning strategies from peers, as contributing factors to their strategy use. *("I also learned from my peers who shared how they take notes or highlight key terms when reading online" (IT1/HPS1/L120-121/RSN/EI).* This indicates a degree of collaborative learning or awareness of effective techniques through observation and peer exchange. In contrast, low-proficiency students brought up limited English proficiency as a significant reason behind their strategy choices. The presence of unfamiliar vocabulary and difficulty understanding complex words prompted them to rely more on translations or simplifying strategies, revealing a language barrier that shaped their reading behavior.

High-proficiency students also pointed to practical benefits like speed and efficiency as the reason for choosing certain strategies, showing a goal-oriented and time-conscious mindset. In contrast, low-proficiency students highlighted memory support as their main reason, preferring strategies that made information more memorable, such as using visuals. This reflects a greater need for scaffolding in comprehension and retention due to cognitive load or language difficulty.

In summary, while both groups employed similar strategies and shared some underlying reasons, high-proficiency students tended to be guided by personal preference, independence, and efficiency. In contrast, low-proficiency students were more driven by the need to manage comprehension difficulties and memory retention, often shaped by their struggle with language and the search for more effective learning aids.

3.3 The Perceived Difficulties of High and Low Proficiency Students Experienced When Reading Online Academic Texts

The third research questions of this study revealed distinct yet overlapping difficulties experienced by high- and low-proficiency undergraduate students when reading online academic texts. Both groups identified eye strain caused by prolonged screen exposure and the difficulty of lengthy texts as significant barriers that affected their concentration and reading endurance. High proficiency students additionally reported technical issues such as device lag, slow internet connections, and formatting problems that disrupted their reading flow. Conversely, low proficiency students struggled primarily with vocabulary limitations, which impeded their comprehension and increased their reliance on external aids.

Table 3 Difficulties Experienced by High and Low Proficiency Students in Online Academic Reading

High Proficiency Group	Low Proficiency Group
eye strain	eye strain
lengthy texts	lengthy texts

technical barriers	vocabulary limitations

The findings presented in Table 3 highlight the types of difficulties experienced by high- and low-proficiency students during online academic reading. Some difficulties were shared across both groups, while others were more specific to their proficiency levels. One common difficulty was eye strain, which both high- and low-proficiency students reported experiencing after extended periods of reading on digital devices *("I often experience eye strain when I read on my laptop for too long." IT1/HPS1/L135-136/DIFF/ES, "For me, reading on a laptop or phone makes my eyes tired quickly." (IT1/LPS1/L163/DIFF/ES.* High-proficiency students typically read on laptops and noted discomfort after prolonged use, while in contrast, low-proficiency students mentioned eye fatigue more in relation to reading on phones with smaller screens and fonts, suggesting that device type and screen size may influence the severity of this issue.

Another shared difficulty was dealing with lengthy texts. High-proficiency students expressed feeling overwhelmed by very long academic readings, particularly journal articles exceeding ten pages. Similarly, in contrast, low-proficiency students also found longer texts more difficult, although their responses tended to be more general and less specific, indicating that the sheer volume of content posed a cognitive burden regardless of their reading skill level.

However, distinct differences were also observed. High-proficiency students identified technical barriers, such as device lag and unstable internet connections, as obstacles that interrupted their reading flow. This suggests that their difficulties were more external and situational, related to the digital reading environment rather than comprehension itself. In contrast, low-proficiency students struggled with vocabulary limitations, often encountering unfamiliar words they could not easily interpret even with the help of tools like Google or ChatGPT. This difficulty reflects a deeper linguistic barrier that directly affects their ability to process and understand academic texts.

In summary, while both groups shared physical and structural difficulties like eye strain and lengthy texts, the nature of their additional difficulties differed notably. High-proficiency students were more affected by external, technical disruptions, whereas in contrast, low-proficiency students faced more fundamental comprehension obstacles, particularly related to limited vocabulary knowledge.

4. DISCUSSION

This study explores how high- and low-proficiency students use reading strategies when engaging with online academic texts, the reasons behind their strategic choices, and the

difficulties they experience. By examining these aspects, the discussion highlights similarities and differences between the groups and relates the findings to previous research and established theories in online reading.

4.1 How the High- and Low-Proficiency Students Employ Reading Strategies When Reading Online Academic Texts

This section discusses how high- and low-proficiency students employ online reading strategies, focusing on global, problem-solving, and support strategies. The comparison highlights not only the shared strategies between the two groups but also the differences in how these strategies are applied and comparisons with previous studies and established theories of online reading

In global reading strategies, high-proficiency students employ these strategies in a deliberate and goal-oriented manner characterized by metacognitive awareness and adaptability. They begin by setting specific reading objectives, previewing texts, and evaluating relevance before engaging deeply, aligned with Ali and Razali (2019), who emphasized the use of skimming and previewing to assess text relevance. These students also demonstrate flexibility by adjusting their reading pace based on content complexity, consistent with Bernardo and Mante-Estacio (2023) findings that proficient readers regulate reading speed strategically. Additionally, they infer meaning from context and utilize digital tools like search functions for efficient navigation, reflecting advanced self-regulation. This aligns with Raja Yacob and Mohamad (2024), who found that contextual inference supports continuous comprehension flow, a strategy evident among high-proficiency readers in this study.

In contrast, low-proficiency students use global reading strategies in a more reactive, surface-level, and task-driven manner. Their reading is often driven by academic obligations rather than intrinsic goals, leading to selective engagement with only essential parts of a text. This aligns with Raja Yacob and Mohamad (2024) who found that early-semester students often read online texts to fulfill academic requirements rather than for deeper learning. Their strategies—such as skipping complex sections or focusing solely on conclusions—reflect a tendency to conserve effort, a pattern also noted by Pookcharoen (2009), who described low-proficiency learners as relying on surface-level tactics. Furthermore, their dependence on translation tools for vocabulary support echoes Pookcharoen's (2009) observation of limited independent reading development. Overall, these students fragmented and externally motivated strategies hinder comprehensive engagement and deeper academic reading skills.

Moving on to problem-solving strategies**,** high-proficiency students use these strategies with strong metacognitive control and flexibility, allowing them to manage comprehension difficulties effectively during online academic reading. They slow down their reading pace when encountering complex content, re-read key sections to confirm interpretations, and actively monitor their understanding, aligned with Anderson (2003) and Rianto (2021), who identified rereading and pace adjustment as indicators of metacognitive engagement. These readers also visualize abstract information and regulate their physical and emotional environment to maintain focus, showing a high degree of self-regulation. This aligns with Pookcharoen (2009), who noted that while both proficiency groups used visualization, high-proficiency students did so with greater strategic intent. Their behavior supports Par's (2020) claim that problem-solving strategies are strong predictors of reading success, emphasizing that proficient readers employ such strategies proactively and adaptively.

In contrast, low-proficiency students exhibit more rigid and reactive problem-solving strategies, often driven by immediate comprehension challenges rather than planned regulation. They tend to read slowly, segment texts, and frequently re-read unclear parts, especially when facing unfamiliar vocabulary, this patterns supported by Pookcharoen (2009) and Rianto (2021), who observed similar coping behaviors among EFL learners with limited proficiency. Although these students demonstrate emerging metacognitive awareness, their strategies are more effortful and compensatory, lacking the strategic flexibility seen in more proficient readers. Anderson (2003) also noted that low-proficiency readers frequently rely on rereading and slow reading as reactive responses rather than deliberate planning. Additionally, while they employ visualization and take breaks to manage fatigue, these behaviors are often basic coping mechanisms rather than part of a comprehensive strategy. Overall, their approach reflects a developing but constrained use of problem-solving strategies shaped by linguistic limitations.

In support reading strategies, high-proficiency students employ them in a selective, strategic, and metacognitively controlled manner to enhance comprehension and engagement with online academic texts. They take focused notes, digitally or manually, only on key ideas or difficult content, using note-taking as a cognitive aid rather than a rote task. This aligns with Rianto (2021), who found that metacognitively aware students deliberately used strategies like highlighting and note-taking to support understanding. Unlike findings from Pookcharoen (2009) which reported note-taking as one of the least-used strategies, this study shows high proficiency students applying it with clear purpose and selectivity. They also use translation tools sparingly, translating only complex vocabulary to maintain reading flow, consistent with

Raja Yacob and Mohamad (2024), who highlighted that strategic bilingual processing reflects metacognitive regulation. Additionally, they paraphrase complex sentences into their own words to internalize meaning, aligned with Pookcharoen (2009) who noted that this behavior associated with skilled readers who actively simplify language for deeper comprehension.

Conversely, low-proficiency students tend to use support strategies more frequently and dependently, often without metacognitive regulation. Their note-taking involves copying large sections rather than extracting key points, indicating reliance on repetition rather than strategic summarization. Rianto (2021) observed this pattern, noting widespread use of note-taking and translation among students, but without clear differentiation by proficiency. While paraphrasing is present, it tends to be reactive, used only when confusion arises, rather than a routine tool for processing meaning, as also noted by Raja Yacob and Mohamad (2024). Most notably, low-proficiency students heavily depend on full-text translation through tools like Google Translate, reflecting limited language autonomy. This aligns with Pookcharoen (2009), who reported translation as the only strategy significantly overused by lower-proficiency readers, and with Raja Yacob and Mohamad (2024), who linked frequent translation use to linguistic dependence. These findings collectively suggest that while support strategies are present, their use among low-proficiency readers often lacks strategic control and reflects compensatory behavior.

In conclusion, this study highlights that while both high- and low-proficiency students employ similar types of strategies, the quality and purpose of their use differ significantly. High-proficiency students demonstrate integrated, selective, and goal-oriented strategy use supported by metacognitive regulation, enabling deeper engagement with online academic texts. In contrast, low-proficiency students rely more on reactive and compensatory strategies, often shaped by linguistic limitations and task-driven motivation. This distinction reinforces the role of proficiency and metacognitive awareness in fostering effective online academic reading. A key novelty of this research lies in its qualitative, comparative examination of online reading strategies across proficiency levels, providing detailed, experience-based insights into how students make real-time decisions in digital reading environments—an area rarely explored beyond survey-based studies. Based on these findings, a key pedagogical and practical implication emerges: online reading platforms and educators should consider integrating features that support both strategic flexibility and reduced translation dependency. For example, developers could implement selective, sentence-level glossaries rather than full-text translation tools to encourage gradual vocabulary autonomy. Educators could also train

students to use built-in navigation tools, annotations, and summarization features to promote more deliberate, goal-directed reading, particularly among low-proficiency students who default to compensatory strategies.

4.2 The Reasons Behind the Use of Reading Strategies Among High and Low Proficiency Students When Reading Online Academic Texts

This section explains the reasons why high- and low-proficiency students use certain online reading strategies. The findings show that some reasons are the same for both groups, while others are different. These reasons are related to personal habits, learning experiences, language difficulties, memory needs, and the influence of others. The discussion also compares the results with previous studies to show how students' English level affects the way they choose and use their reading strategies.

To begin with, personal habits emerged as a strong predictor of strategy choice for both groups. Many students reported using strategies such as note-taking, rereading, and highlighting simply because they had become part of their routine over time. These habits often began during earlier stages of education and continued into university settings. Students found these familiar methods helpful for organizing information and maintaining focus. This is consistent with findings by Hermida (2021) and Tanjung et al. (2017) who noted that students' reading behaviors are shaped early on and align with personal preferences and established study routines.

Additionally, learning experiences, particularly those formed through trial and error, also played a significant role in shaping strategy use across proficiency levels. Students recounted experimenting with various methods such as rewriting, typing, or translating text before settling on the approaches that worked best for their comprehension. These experiences reflect a self-directed learning process where students adapt their strategies based on effectiveness and familiarity. This observation supports prior studies by Mahdavi and Azimi, (2012) and Mohr et al. (2018) which found that students refine their reading techniques through iterative learning and self-assessment.

For low-proficiency students, linguistic limitations were a central reason for relying on certain strategies. Many struggled with unfamiliar vocabulary and complex sentence structures, prompting them to frequently use translation tools and rereading as compensatory techniques. This reliance indicates a need to bridge comprehension gaps caused by limited English proficiency. Abdul Rahim et al. (2023) reported that low-proficiency EFL students often resort to translation and repeated exposure when encountering lexical and syntactic challenges. Al-

Qahtani (2021) similarly noted that linguistic barriers significantly influence the choice of basic comprehension strategies in online academic reading. Additionally, memory reinforcement was another key motivator, with students highlighting and rereading text to retain and recall information. This pattern reflects Aljabri (2024) observation that memory-based strategies are commonly adopted by EFL learners to cope with the demands of complex academic content.

In contrast, high-proficiency students were more influenced by external inputs and practical advantages. They frequently credited lecturers, peers, or online platforms like YouTube and Google for introducing effective strategies. Moreover, they favored strategies that offered convenience and efficiency, such as digital navigation tools and selective reading, which helped them stay engaged while managing time effectively. These findings align with Dakakni and Safa, (2023) and Habók et al. (2024), who highlighted the role of external influences and the perceived benefits of digital tools in shaping online reading practices. Overall, these distinctions emphasize that while both groups share some foundational motivators, their strategic choices are shaped by different priorities and challenges based on proficiency level.

In conclusion, the reasons why students use certain strategies come from a mix of personal habits and the situations they face. High-proficiency students usually choose strategies because they are efficient and often learn them from teachers, friends, or online sources. Meanwhile, low-proficiency students rely more on habits, memory support, and the need to overcome language difficulties. These findings highlight the need for platform features and instructional interventions that help students refine their strategies. For instance, educators could explicitly teach efficient strategy use, such as selective highlighting, structured note-taking templates, or paraphrasing prompts, to help low-proficiency students move beyond habitual or translation-based strategies. Developers could incorporate customizable scaffolds such as guided reading routes, reflection checklists, or AI-assisted vocabulary previews to support strategic independence among both proficiency groups.

4.3 The Perceived Difficulties of High and Low Proficiency Students Experienced When Reading Online Academic Texts

This section discusses the difficulties that high- and low-proficiency students face when reading academic texts online. While some problems were common to both groups, low proficiency group were more specific depending on their proficiency level. Understanding these difficulties helps explain how reading experiences differ and what kinds of support might be needed.

First, eye strain emerged as a pervasive issue across proficiency levels, stemming from extended periods of reading on digital devices such as laptops and smartphones. Participants described symptoms including eye fatigue, dryness, and reduced focus, exacerbated by factors like screen brightness and small font sizes. These findings corroborate earlier research indicating that on-screen reading often leads to physical discomfort that diminishes engagement (Melati et al., 2023; Rahayu, 2024; Syam & Furwana, 2023). Notably, low proficiency students reported coping strategies such as alternating reading with breaks to manage eye fatigue, highlighting the impact of this difficulty on reading endurance.

Next, lengthy academic texts were perceived as cognitively demanding by both high- and low-proficiency groups. High proficiency students noted that long readings required sustained concentration and strategic effort to locate relevant information, while low proficiency students expressed feelings of overwhelm and reduced motivation when confronted with extended texts. This aligns with Pookcharoen (2009) findings that text length and structure present difficulties regardless of proficiency, as students tend to equate longer texts with increased difficulty, which can hinder comprehension and persistence.

Additionally, technical barriers specifically affected high proficiency students, who encountered issues such as device lag, unstable internet connections, and inconsistent digital formatting of academic materials. These disruptions interfered with their ability to access and engage efficiently with online content, echoing the observations of Fauziyyah et al. (2023) and Laila et al. (2024) regarding the critical role of technological mastery and stable connectivity in successful online reading experiences. The variability in document formatting further complicated navigation and readability, adding to the cognitive load despite these students' higher reading proficiency.

Lastly, vocabulary limitation was a major obstacle unique to low proficiency students, who struggled with unfamiliar academic and discipline-specific terminology that complicated text interpretation. Despite using digital tools like ChatGPT and online dictionaries, misunderstandings persisted, slowing reading pace and comprehension. This is consistent with Abdul Rahim et al. (2023) and Pookcharoen (2009), who highlighted vocabulary difficulties as a key factor hindering academic reading among less proficient learners. The formal and technical nature of academic language thus remains a significant barrier, underscoring the need for targeted support to improve lexical knowledge and confidence in handling complex texts.

These insights suggest practical recommendations for improving students' online academic reading experiences. Online reading platforms could benefit from built-in technical

support features, such as offline reading modes, standardized formatting, adjustable display settings, and accessibility tools, to reduce disruptions for high-proficiency students who rely heavily on smooth digital navigation. Meanwhile, integrating in-text glossaries, pop-up definitions, and discipline-specific vocabulary banks could support low-proficiency readers by reducing their dependence on full translation and enhancing academic vocabulary acquisition. Educators may also introduce digital literacy workshops focusing on managing screen fatigue, optimizing device settings, and using platform features strategically.

5. CONCLUSION

In conclusion, this study found that high- and low-proficiency students adopt distinct approaches to online academic reading. High-proficiency students employed more metacognitive, goal-oriented, and flexible strategies, whereas low-proficiency students relied heavily on surface-level tactics and translation tools. Both groups were shaped by personal habits and learning experiences, with low-proficiency students encountering more language-related challenges. Shared difficulties included eye strain and lengthy texts; however, vocabulary and comprehension issues were more prevalent among low-proficiency students, while high-proficiency students faced technical and cognitive demands. A key strength of this study lies in its in-depth comparison of strategy use across proficiency levels, revealing not only behavioral differences but also underlying factors influencing those differences. The gap addressed by this research involves the limited understanding of how online reading environments affect strategic reading based on proficiency. These findings suggest that tailoring online reading instruction to students' proficiency levels and needs can improve their strategy use and comprehension. Supporting both advanced strategies for high-proficiency students and foundational skills for low-proficiency students, along with explicit guidance on the effective use of digital reading tools and techniques for managing screen-based challenges, is key to enhancing online academic reading success.

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