

Online Reading and Reasons for Reading Struggles: A Case Study

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Abstract

This quantitative survey investigates the perceptions of 123 undergraduate learners from various faculties at a public university in Malaysia regarding their online academic reading strategies. The study aims to understand how these learners perceive challenges in online reading and evaluate their utilisation of global, problem-solving, and support reading strategies. The research employs a comprehensive survey instrument encompassing three sections: Demographic profiles, exploration of reading challenges, and perceived use of global, problem-solving, and support reading strategies. Findings uncover challenges, including linguistic inadequacy and anxiety, influencing learners' engagement and comprehension in online academic reading. These results offer implications for educators to address these challenges and enhance the online academic reading experiences of learners.

KEYWORDS: Online Reading, Reading Strategies, Reading Challenges, ESL learners

1.0 INTRODUCTION

1.1 Background of Study

Reading is widely recognized as a means of acquiring new knowledge, fostering maturity, and developing a broader understanding of current issues (Abdullahi & Rouyan, 2018; Lai, 2021). A strong reading comprehension skill is particularly crucial for graduate students, who often engage in specialised research activities (Snow, 2002, as cited in Chen, 2023). The COVID-19

pandemic accelerated the demand for online learning, prompting the rapid development of technology and digital platforms to facilitate engagement with online reading materials. Consequently, higher education institutions have adjusted their norms, making online reading a pervasive practice. In response, students' reading habits and preferences are undergoing a significant shift, with a growing reliance on online and screen-based reading methods (Mangen, Walgermo, & Bronnack, 2013; Azmuddin, Nor, & Hamat, 2017). This transition underscores the critical importance of understanding the evolving landscape of reading behaviours in digital environments, particularly as it pertains to students' academic success.

Online reading presents both advantages and challenges. Media-rich content in online reading has the potential to enhance reading speed, information retention, and reading flexibility (Hooper & Herath, 2014). Advancements in technology, media formats, content, and social interaction platforms have brought about significant shifts in how it is consumed (Das & Ytre-Arne, 2018). Digitalisation and platform development have ushered in a proliferation of reading formats and business models, such as streaming services, impacting both the industry and consumers (Colbjornsen, 2020; Dijck et al., 2018; Spilker & Colbjornsen, 2020). This digital transformation offers numerous opportunities for information, education, and entertainment. Moreover, research indicates that online reading materials promote the use of authentic content in the classroom. Educators who teach in English often turn to authentic online resources when they lack up-to-date textbooks that align with their students' needs (Bocanegra-Valle, 2010), especially in fields where knowledge rapidly evolves and requires frequent updates (Lesiak-Bielawska, 2015). Solely relying on conventional textbooks can be counterproductive for instructors as it may provide outdated information to learners (Ciornei & Dina, 2015). Prior studies have shown that students exhibit higher motivation levels when engaging with authentic English texts (Martínez-Sáez, 2019). Conversely, research on teaching practices has revealed that completely avoiding authentic content can demotivate students in the long run, as it disconnects the study material from their future professional goals (Breeze & Sancho Guinda, 2017; Jernigan, 2017). Therefore, ensuring an effective online reading process facilitates the integration of authentic materials, ultimately leading to more engaging discussions.

However, in today's digitally connected world, extended-form of reading faces increasing competition for readers' attention (Firth et al., 2019; Terranova, 2012). Over time, the mental focus required for comprehending longer texts becomes susceptible to digital distractions (Baron, 2021; Baron & Mangen, 2021). Addressing this challenge to sustained attention prompts the investigation of reading process in the presence of disruptive digital media (Syvertsen, 2020). Several studies on reading online have found that the short-term and long-term memory, particularly of younger students, could be negatively impacted (Mangen et al., 2013; Dockter, 2016). Past research has suggested that people generally read shorter texts in a digital media environment (Baron, 2015; Mangen & Van der Weel, 2016), casting a spotlight on the pressing need to investigate the underlying reasons behind reading struggles in the digital age. Some studies have attributed this phenomenon to the excessive exposure to easily consumable and superficial content available on the Internet and smartphones (Carr, 2010; Jackson, 2018; Twenge et al., 2019). Thus, the future of prolonged engagement with lengthy texts is considered to be at risk (Baron, 2021; Kovač & Van der Weel, 2018; Mangen et al., 2021; Wolf, 2018).

In addition to diminished attention spans, reduced reading time leads to limited vocabulary and general knowledge, contributing to reading comprehension difficulties (Yunus, Mohamad, & Waelateh, 2016). A recent survey further underscores these challenges, highlighting the

prevalent issue in today's education: a lack of reading comprehension among higher education students (Edward et al., 2021). The study by Edward et al. (2021) indicates that 60 percent of the students had trouble grasping a text's main idea, and 76 percent struggled with complex vocabulary at times

Furthermore, research in Malaysia has shown that a significant portion of university students do not prefer to read in English. In a study of 150 students at a public university in Malaysia, only 27.3% indicated a preference for reading in English (Chee & Pandian, 2012). Similarly, a study involving 119 students at a Malaysian Polytechnic found that only 10.1% favored reading in English (Annamalai & Muniandy, 2013). Most students expressed a preference for reading in their native languages. This lack of motivation to read in English is concerning, as it could hinder students' language proficiency and reading strategies.

Moreover, university-level students are expected to possess critical literacy skills to meet their academic requirements (Musa, Lie & Azman, 2012). However, studies involving Malaysian university students have revealed that many of them struggle with critical and constructive reading, which includes the ability to extract information from a text and connect ideas between paragraphs (Musa, Lie & Azman, 2012). This reduced proficiency in English reading can negatively impact their ability to access knowledge from English resource materials.

As such, understanding how students interact with digital texts and the challenges they face is pivotal to developing more effective teaching methods and support systems. Furthermore, digital literacy's growing significance has recently been reflected in Malaysia's national policies and educational reforms (Chin, 2023). Policymakers are recognizing the need for comprehensive digital literacy initiatives to address the evolving educational landscape. The study's results can directly influence policy decisions by offering insights into how to enhance reading skills and literacy in a digital learning environment, thereby shaping the future of education. Recognizing the multifaceted challenges presented by the evolving landscape of online reading, this study seeks to investigate issues in online reading effectively.

1.2 Statement of Problem

The rise of digital technology has fundamentally transformed the way we access and engage with written content, leading to a significant shift towards online reading. Furthermore, a sizable majority of Malaysian students, from elementary to university level, still have trouble understanding what they are reading. Many language teachers express some worries regarding their students' capacity to carry out reading comprehension assignments successfully and adequately comprehend the contents of texts. In this regard, Sani & Ismail (2021) said that "training pupils to read well is the main focus of the teachers and researchers to assure success in learning." According to some experts, it can be challenging for most language learners to understand the meaning of the target text (Jincheng & Rahmat, 2022). However, it is advised that educators may aid weaker readers in strengthening their capacity to understand and gain knowledge from their reading materials from a young age" (Lamo, Dhuli & Larsari, 2021). Increasing struggling students' awareness of their own reading strategies is one technique to improve their comprehension of texts and raise their productivity (Jincheng & Rahmat, 2022). They suggest that "less competent learners may increase their skills by instruction in tactics exhibited by most successful learners" in this regard. While online reading offers numerous advantages, such as convenience and accessibility, it has also given rise to a host of challenges that hinder effective comprehension and engagement with text. This study aims to investigate the reasons behind these reading

struggles in the online context, shedding light on the critical issues that readers face as they navigate digital texts.

1.3 Objective of the Study and Research Questions

This study is done to explore perception of learners on their use of reading strategies in an online context. Specifically, this study is done to answer the following questions;

- How do learners perceive their reading struggles in online reading?
- How do learners perceive their use of global reading strategies ?
- How do learners perceive their use of problem-solving reading strategies ?
- How do learners perceive their use of support reading strategies ?
- Is there a relationship between reading struggles and online reading strategies?

2.0 LITERATURE REVIEW

2.1 Problems in Online Academic Reading

The Internet and the fast growth technology have changed the way people access and engage with academic materials. In this modern era of technology, online academic reading has grown increasingly popular, providing ease and access to a large diversity of scholarly materials. However, this transformation has resulted in several challenges that researchers, students, and educators encounter while browsing digital academic content. One primary concern is digital distraction. In order to read online, individuals need to ensure that their devices, such as mobile phones and laptops, are connected to the Internet. Staying focused on the academic material can be challenging due to the potential for distractions from social media, advertisements, emails, or other websites (Anggraini et al., 2022). Furthermore, due to the huge number of digital materials available, online academic reading exposes individuals to the risk of information overload (Sandberg, 2011). This might overwhelm the readers, making it difficult for them to locate and synthesise relevant information. Finally, one of the issues that might arise during online academic reading is screen fatigue (Mukhlif & Amir, 2017). Spending long hours reading on screen can indeed result in screen fatigue, which can significantly reduce understanding of the reading materials.

2.2 Academic Reading Strategies

Despite its significance, reading has consistently posed challenges for both learners and educators. As pointed out by Singh et al., (2023), numerous Malaysian tertiary-level students face difficulties in their studies, primarily stemming from inadequate study skills, with reading being the central issue. Several factors contribute to this reading problem, including a low proficiency in the English language, limited vocabulary and application of reading strategies, difficulty in pronouncing the words, selection of text and lack of interest in reading are the major factors that affect English reading skills at college level (Shah et al, 2022) . Nevertheless, one effective and efficient approach to address this issue without requiring extensive effort, time, and resources is through reading strategy instruction. It is essential to recognize that individuals respond uniquely to various reading strategies (Amini, Zahabi, Amini, & Hosseini, 2020). This suggests that a person's preferred learning style can influence the reading strategies they find most comfortable. While some perceptive learners might intuitively choose the right strategies for their learning style, many learners struggle with independent reading at the college level because they may not be aware of their optimal strategies. To enhance comprehension for all types of learners, it's crucial to align the teaching of reading strategies with students' learning styles.

2.3 Past Studies on Difficulties in Academic Reading

Engaging in academic reading is a dynamic process that requires readers to interact with the text. This interaction includes activities like note-taking, establishing links between the current text, prior knowledge, and other literature, as well as posing thoughtful inquiries about the material being read. Many Studies have been done to investigate the difficulties that students face in academic reading. One of them was conducted by Anwar & Sailuddin (2022) in Indonesia. The study was conducted on 60 higher education students. The results of the survey revealed that while students generally consider academic reading to be easy, the responses to question Q3 indicated that they encounter some challenges in swiftly comprehending the main idea of a text. On the other hand, the item with the highest average score, Q8, pertains to their ability to deduce the meanings of complex words. Another study was conducted by Singh et al. (2023) on 225 higher education students in Malaysia. The quantitative study yielded that the majority of respondents indicated that they often found themselves comparing their language abilities unfavourably to those of their peers. The next most common reaction was that even when well-prepared for language classes, they experienced feelings of anxiety. Following closely behind were respondents who reported feelings of frustration when they could not comprehend English texts.

A smaller scale study was conducted by Noorezam et al. (2022) that revolved around 60 higher education students in Malaysia. The findings of the quantitative research indicated that while students generally claimed comprehension of reading materials and the ability to address related questions, a significant number of them highlighted their limited vocabulary as a hindrance to their reading proficiency. Additionally, Munawarah et al. (2023) conducted a study that adopts a descriptive qualitative design. The study was conducted on 27 higher education students in Indonesia. The results reveal that the primary difficulties faced by students include: 1) Students hold negative views regarding academic journals; 2) The vocabulary level is excessively advanced; 3) The complexity of sentence structures poses comprehension challenges. Finally, another qualitative study that shed light on this matter was conducted by Satriani (2018). The study on 40 higher education students used questionnaire and interviews as its instrument. The findings indicated that students find it time-consuming to read through texts. Also, they felt that the complexity of the reading materials worsens the issue, as unfamiliar subject matter and intricate grammar structures impede their understanding. The presence of excessively long sentences within reading texts further compounds this problem. Consequently, new vocabulary and lengthy passages are viewed by students as significant barriers in reading.

2.4 Past Studies on Academic Reading Strategies

Academic reading is a pillar of higher education which is important for academic achievement. It entails the capacity to engage with complex texts and critically synthesise ideas. Many studies have been done to investigate academic reading strategies. A study conducted by Abdul Rahim et al. (2023) is done to identify the correlation between difficulties encountered in online reading and the use of reading strategies. Purposive sampling was used in this quantitative study involving 335 participants. A 5-point Likert scale was used to measure reading comprehension issues and perceived use of online reading strategies. The result of this research showed a substantial beneficial relationship between global strategies, problem-solving reading methods, and support strategies in resolving reading issues among students. The findings also highlighted the necessity of using all three strategies- global,

problem-solving, and support strategies to help learners understand reading resources. Furthermore, educators may assist their students in applying these reading strategies on their own by increasing their awareness of employing reading strategies through practice before they engage themselves in reading materials.

Next, the study by Surendran & Bojiah (2023) also investigated the efficacy of reading strategies used by undergraduate technical students from various backgrounds at the intermediate level of learning English. This study included 371 Tamil-speaking Indian students in their second and third year at a South Indian engineering institution. They were given a set of closed-ended questions on a five-point Likert scale. The reliability of the data collected was evaluated using the Cronbach alpha test, ensuring the reliability of the results. Data analysis was conducted using IBM SPSS and MS Excel tools. The findings revealed that most participants used the global understanding approach, followed by the problem-solving strategy and the supporting strategy. These findings suggest potential areas for improvement within the problem-solving approach and supporting strategy. Additionally, the study also recommends providing training for both educators and students to analyse the effectiveness of their strategies, thereby enhancing the overall experience.

Another study conducted by Hasyim et al. (2023) investigated reading strategies implemented by high achieving students. This study used a descriptive qualitative approach on three high achiever students from the eighth semester at the University of Islam Malang. The data for this study were gathered using WhatsApp voice notes and semi-structured interviews as the instrument. A qualitative analysis is used to obtain the data, which includes data reduction, grouping, coding, and interpretation. The findings revealed that high achieving students used 15 different strategies, including prior knowledge, skimming, analysing, summarising, scanning, predicting, observing, planning, reflecting, reviewing, motivating, asking questions, discussion, asking for opinions, cooperation, and decoding. Notably, cognitive strategies were the most used, followed by metacognitive and social strategies, with emotional and compensatory strategies being the least used. Moreover, the study recommends using various appropriate reading strategies that meet reading demands, as well as evaluating pre-reading and post reading procedures to enhance overall reading proficiency.

2.5 Conceptual Framework

The advent of online reading materials has brought forth fresh challenges within the domain of academic reading. As Rahmat et al. (2022) have observed, learners often grapple with difficulties when engaging in academic reading tasks. The conceptual framework, illustrated in Figure 1, forms the cornerstone of our study, which seeks to investigate how readers employ strategies for online reading and the specific reading challenges they confront in academic contexts. As posited by Abeeleh and Al-Sobh (2021), academic reading difficulties can stem from various sources, including the content, structure, and elements within the text. Furthermore, Amer, AL Barwani, and Ibrahim (2010) propose that readers employ a spectrum of strategies when reading online materials, encompassing strategies for grasping the overall meaning of the text, tackling issues that arise during reading, and utilising techniques to bolster comprehension.

These strategies can be broadly categorised as follows:

1. *Global strategies*: These encompass deliberate actions taken by readers to oversee their reading process. For instance, readers may consciously set a clear reading objective, preview the text to gain an initial sense of its content, evaluate how effectively the text aligns with its

intended purpose, take note of textual features like length and structure, and make informed predictions regarding the text's intended meaning.

2. *Problem-solving strategies*: These come into play when readers directly engage with the text, particularly when it presents challenges. These strategies involve deciphering the meaning of unfamiliar words, adjusting reading speed to suit the text's complexity, constructing mental imagery based on the text, reconciling conflicting or inconsistent information, and occasionally revisiting sections of the text to enhance comprehension.

3. *Support strategies*: Readers utilise these tools and techniques to bolster their comprehension. Examples include consulting a dictionary for unfamiliar terms, taking notes to capture key points, highlighting significant information within the text, or translating text from their native language to the target language (Amer, AL Barwani, & Ibrahim, 2010).

In essence, this study delves into readers' navigation of online reading materials and how these strategies relate to the challenges they encounter during academic reading.



Figure 1- Conceptual Framework of the Study- Online Reading and Reading Struggles

3.0 METHODOLOGY

This quantitative study is done to explore the perceived use of online reading strategies among undergraduates. A purposive sample of 123 participants responded to the survey. The instrument used is a 5 Likert-scale survey and is rooted from Abeeleh and Al-Sobh (2021) on reading struggles and also Amer, AL Barwani, & Ibrahim (2010) on readers on perceived use of online reading strategies to reveal the variables in table 1 below. The survey has 4 sections. Section A has items on demographic profile. Section B has 14 items on reading struggles. Section C has 34 items on online reading strategies.

Table 1- Distribution of Items in the Survey

SECTION	CATEGORIES	STRATEGY	
B	READING STRUGGLES	Reading Difficulties	14
C	ONLINE READING STRATEGIES	Global	17
		Problem-Solving	8
		Support	9
			48

Table 2- Reliability of Survey

Reliability Statistics

Cronbach's Alpha	N of Items
.927	48

Table 2 shows the reliability of the survey. The analysis shows a Cronbach alpha of .927, thus, revealing a good reliability of the instrument chosen/used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

4.0 FINDINGS

4.1 Findings for Demographic Profile

Q1 Gender

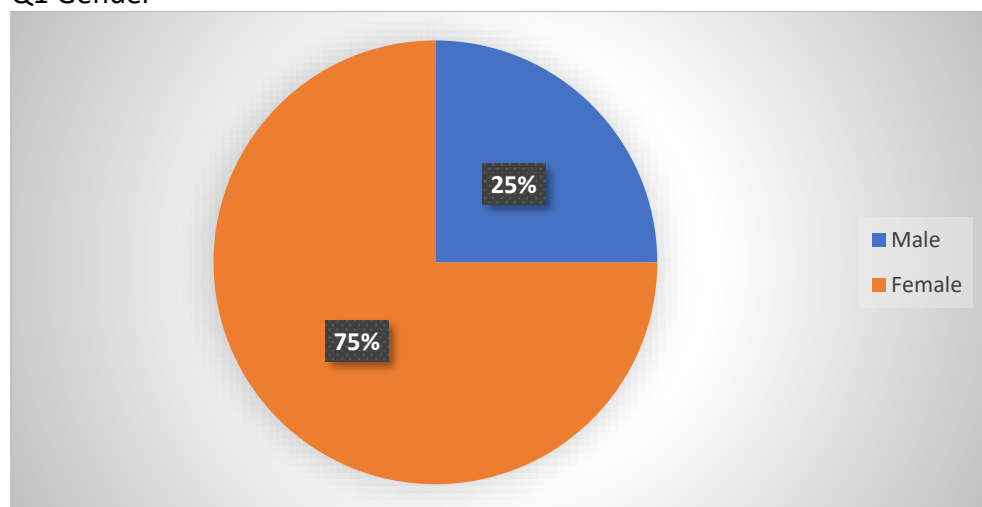


Figure 2- Percentage for Gender

Figure 2 displays the gender distribution of the study participants. The data reveals that 75% of the respondents are female (n=92), while the remaining 25% are male students (n=31).

Q2 Cluster

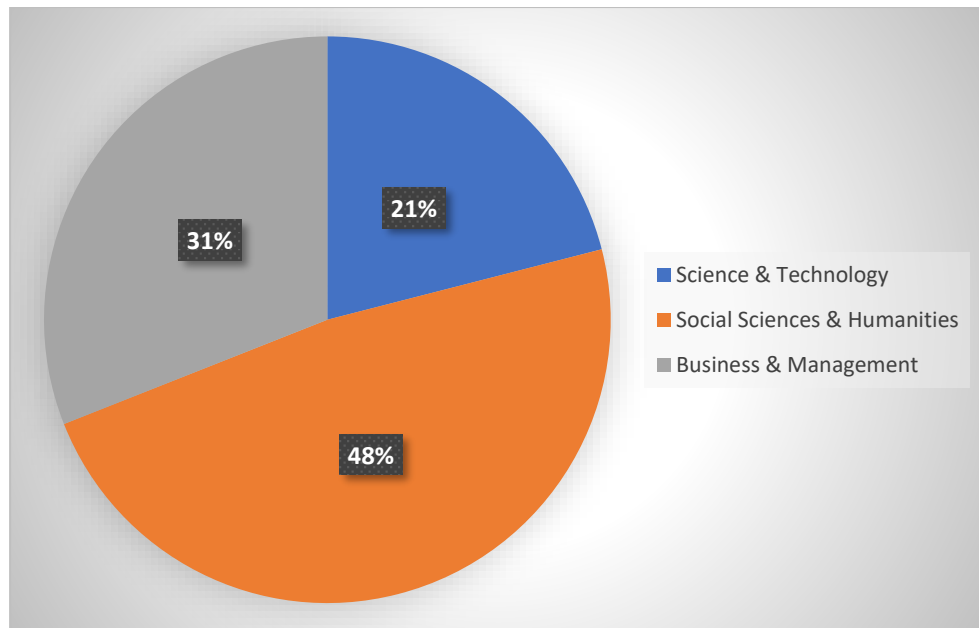


Figure 3- Percentage for Cluster

Figure 3 illustrates the distribution of participants across different study fields. The majority of the participants belong to the Social Sciences and Humanities cluster, constituting 48% (n=59) of the total, while 31% (n=38) are from the Business and Management cluster, with the smallest number of participants coming from the Science and Technology cluster at 21% (n=26).

Q3 Semester

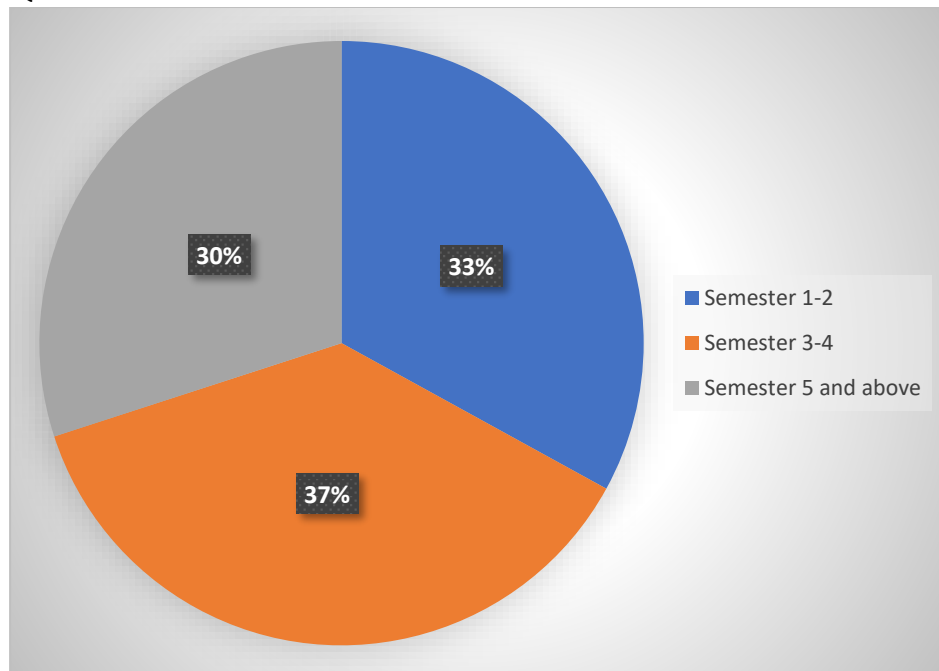


Figure 4- Percentage for Semester

Figure 4 presents the distribution of participants based on their semester of study. The largest group comprises 37% (n=46) of respondents in semester 3 and 4, followed closely by 33% (n=41) in semester 1 and 2. The remaining 30% (n=36) of respondents are in semester 5 and above.

Q4 Self-Rating Reading

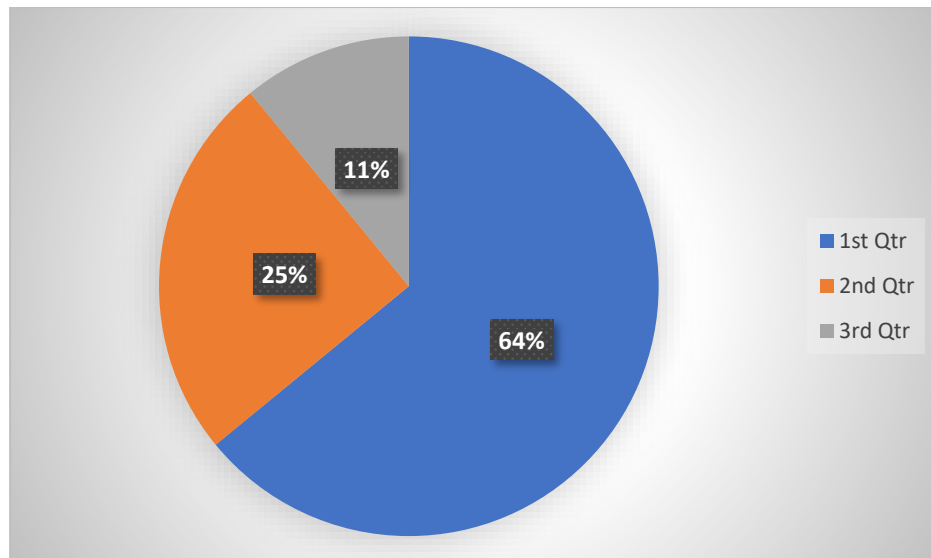


Figure 5- Percentage for Self-Rating Reading

Figure 5 illustrates the self-rated reading skill levels of the respondents. The majority, at 60% (n=74), consider themselves to have an average level of reading skill. Additionally, 38% (n=47) rated their reading skills as good, while only 2% (n=2) reported having a poor level of reading skill.

Q5 Free Time-How often do you read books?

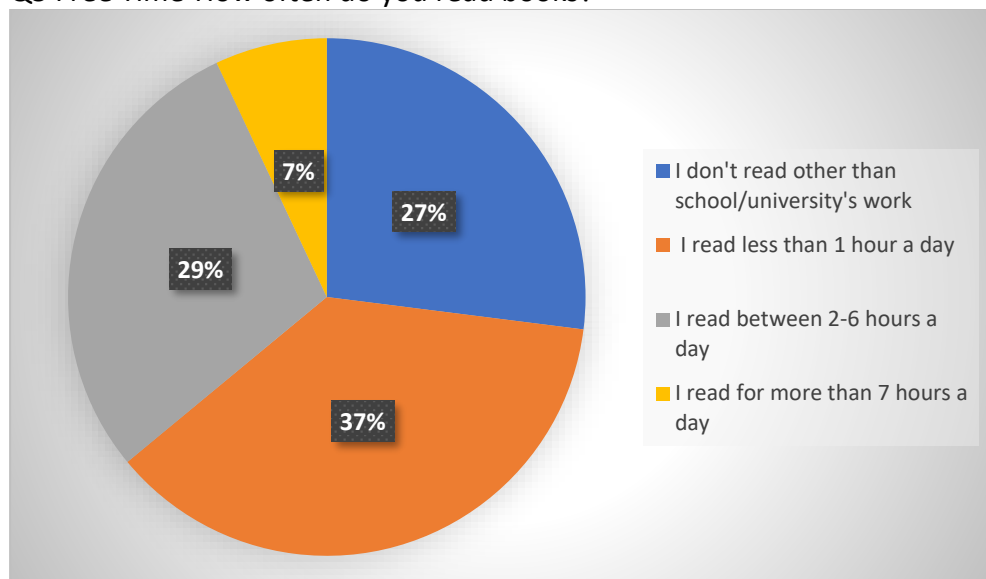


Figure 6- Percentage for Free Time

Figure 6 provides insights into the average amount of time spent by respondents on reading books. The data shows that 37% (n=45) of respondents read for less than 1 hour a day, while 29% (n=36) read between 2 to 6 hours a day. In contrast, 7% (n=9) of respondents read for more than 7 hours daily, while 27% (n=33) reported not reading for leisure outside of school or university work.

Q6 Reading Preference

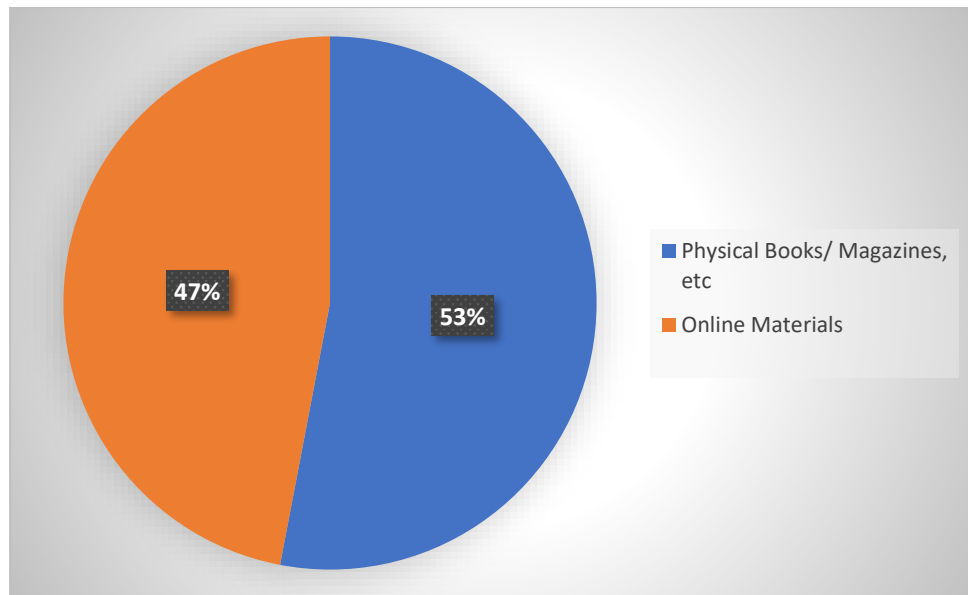


Figure 7- Percentage for Reading preference

Figure 7 displays the participants' preferences regarding the medium of reading materials. A majority, accounting for 53% (n=65) of respondents, prefer reading physical books, magazines, etc., while the remaining 47% (n=58) opt for online materials.

Q7 When I read

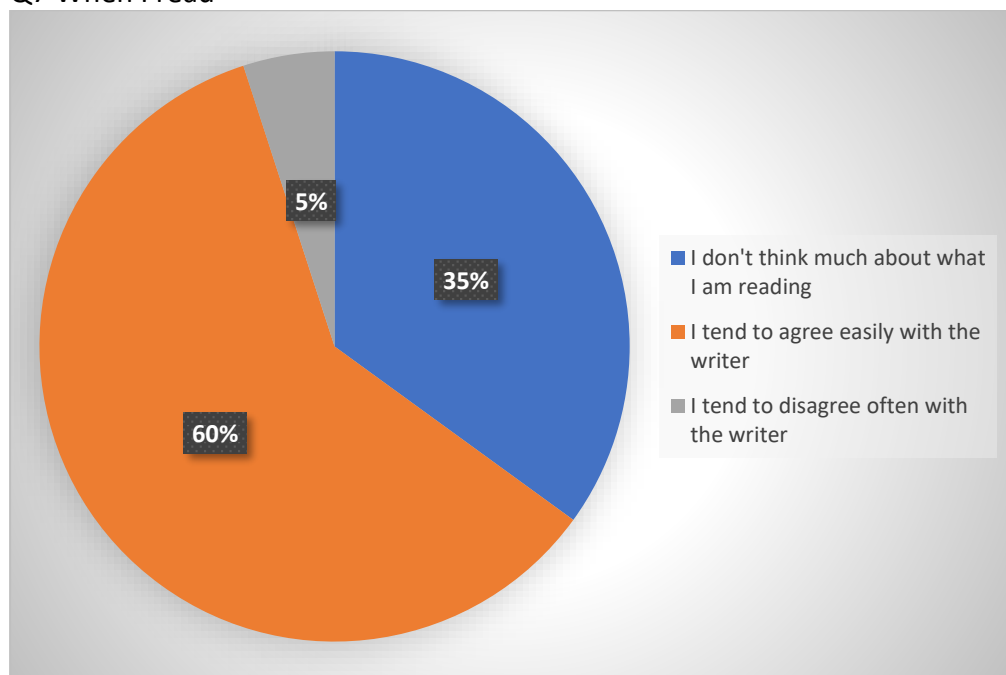


Figure 8- Percentage for "When I read"

Figure 8 illustrates the percentage for "When I read". 35% (n=43) of the participants do not think much about what they are reading. 60% (n=74) of the participants tend to agree easily with the writer when they are reading. While, 5% (n=6) of the participants tend to disagree often with the writer when they are reading.

4.2 Findings for Reading Struggles

This section presents data to answer research question 1- How do learners perceive their reading struggles in online reading?

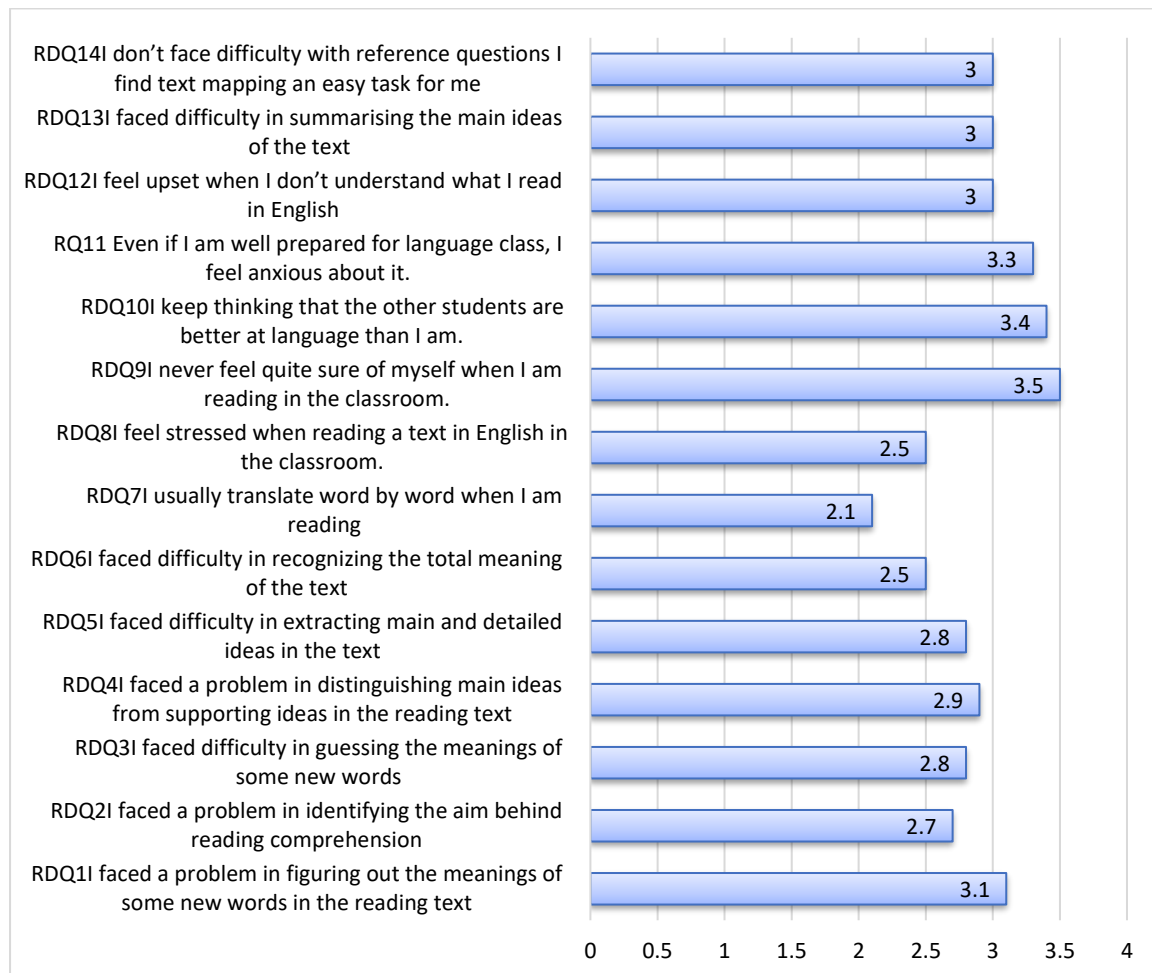


Figure 9- Mean for Reading Struggles

Figure 9 illustrates the mean score for “How do learners perceive their reading struggles in online reading?”. The highest mean score is 3.5 implies that respondents never feel quite sure of myself when I am reading in the classroom, followed by the mean score of 3.4 which indicates the kept feeling that other students were better than them. Item RDQ7 ‘translate word by word’ has the lowest mean score of 2.1.

4.3 Findings for Global Reading Strategies

This section presents data to answer research question 2- How do learners perceive their use of global reading strategies?

GLOBAL STRATEGIES

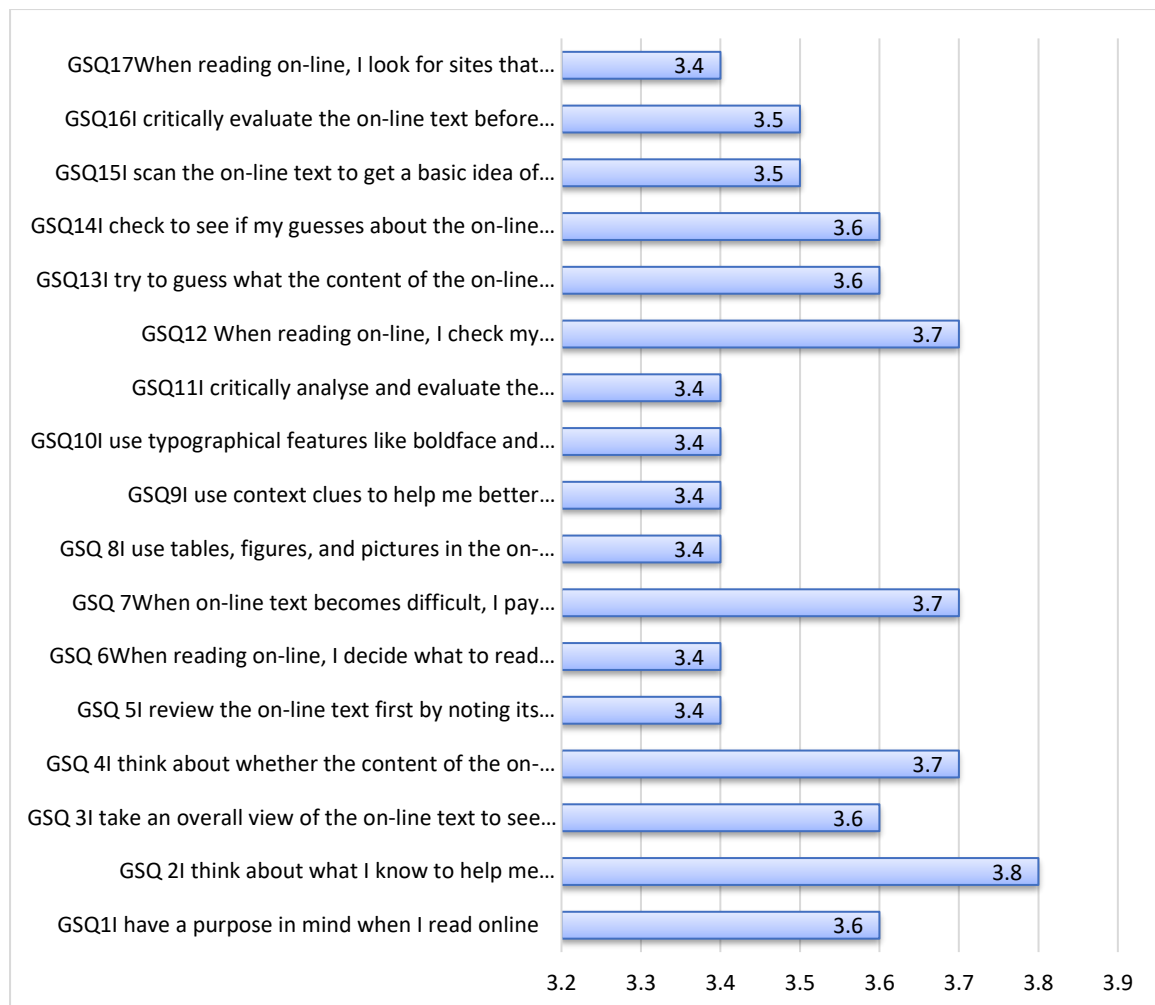


Figure 10- Mean for Global Reading Strategies

Figure 10 depicts respondents' responses to statements regarding Global Reading Strategies. The highest mean score is 3.8 whereby students use their prior knowledge to help them understand what they read online. Items GSQ 5 'I review the on-line text first by noting its characteristics like length and organisation', GSQ 6 'When reading on-line, I decide what to read thoroughly and what to ignore', GSQ 8 'I use tables, figures, and pictures in the on-line text to increase my understanding', GSQ 9 'I use context clues to help me better understand what I am reading online', GSQ 10 'I use typographical features like boldface and italics to identify key information', GSQ 11 'I use typographical features like boldface and italics to identify key information' and GSQ17 'When reading on-line, I look for sites that cover both sides of an issue' have the lowest mean score of 3.4.

4.4 Findings for Problem-Solving Reading Strategies

This section presents data to answer research question 3- How do learners perceive their use of problem-solving reading strategies?

PROBLEM--SOLVING STRATEGIES

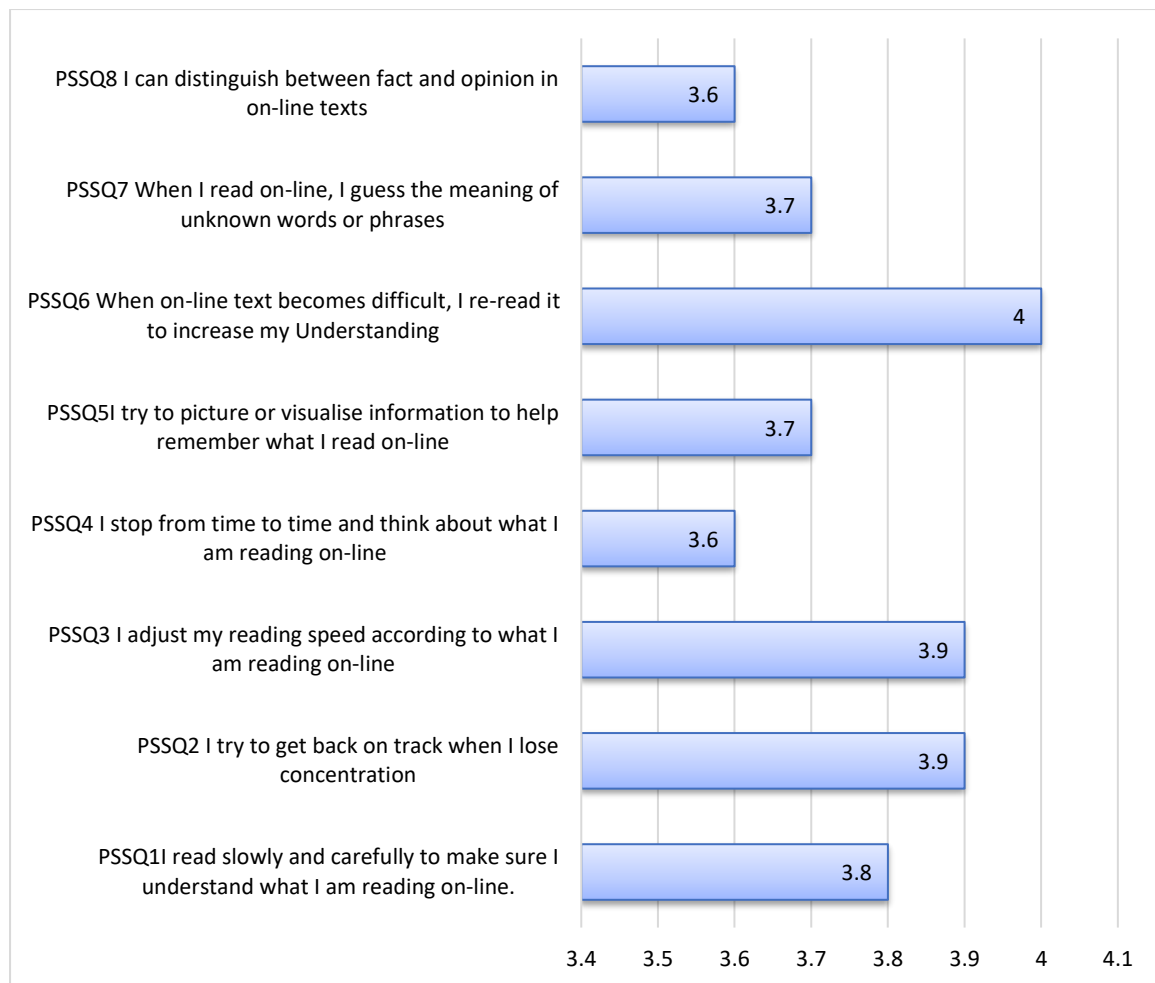


Figure 11- Mean for Problem-Solving Reading Strategies

Figure 11 above provided findings on the analysis of responses to a set of statements (PSSQ1 to PSSQ8) that inquire about problem-solving reading strategies and habits when reading online. Re-reading challenging online text to enhance understanding is a strategy that seems to be prevalent among respondents, as evidenced by the high average score of 4. This is followed by refocusing their attention when they lose concentration (PSSQ2) and adjusting their reading speed according to the complexity of the online material (PSSQ3) that both received a similar high rating of 3.9. Many respondents of this survey also used the reading slowly and carefully to make sure they understood the texts as a strategy (3.8). PSSQ5 and PSSQ7 both received 3.7 ratings. Finally, the 2 items with the least score (3.6) are PSSQ4 and PSSQ8. While there are slight variations in the degree of agreement across different statements, overall, the respondents demonstrate an intention to solve the reading difficulties they faced and employ various tactics to achieve this goal.

4.5 Findings for Support Reading Strategies

This section presents data to answer research question 4- How do learners perceive their use of support reading strategies?

SUPPORT STRATEGIES

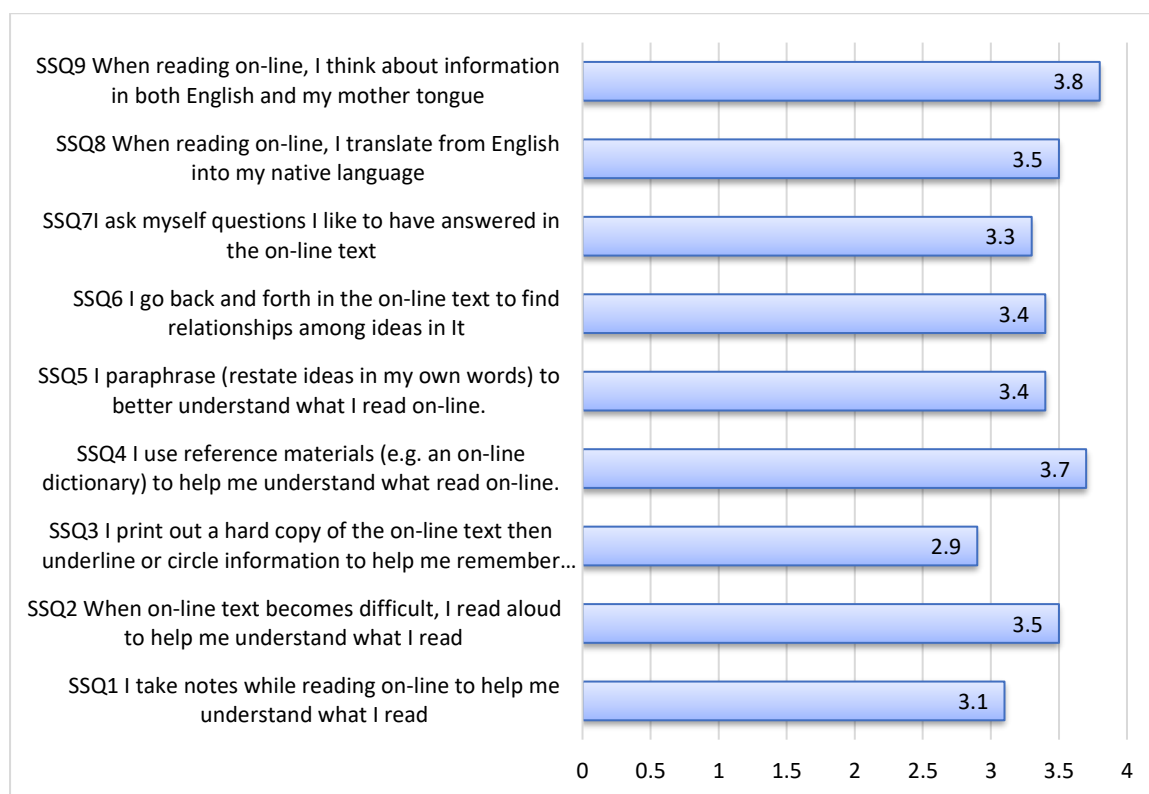


Figure 12- Mean for Support Reading Strategies

Figure 12 above indicates the mean for supporting reading strategies that students use when they face difficulties while reading online. Considering information in both English and their mother tongue while reading online is rated as a highly effective strategy as this item received the highest rating of 3.9. Students also feel that using reference materials like online dictionaries helps them comprehend what they read online (3.8). Next, reading aloud when the text is difficult is also seen as a relatively effective strategy when online text becomes challenging (3.5). Similarly, students translate from English to their native language as one of the supporting reading strategies when reading online (3.5). On the other hand, strategies like paraphrasing the text and going back and forth in the online text to identify relationships among ideas received a moderate rating of 3.4. The same applies to the strategy of posing questions while engaging with online reading material, which garnered a rating of 3.3. Meanwhile, note taking (3.1) and printing online text and underlining or circling information for better retention and understanding receives a relatively lower rating (2.9). This suggests that participants are somewhat neutral about the effectiveness of these two strategies.

4.6 Findings for Relationship between Reading Struggles and Online Reading Strategies

This section presents data to answer research question 5- Is there a relationship between reading struggles and online reading strategies? Online reading strategies refer to global, problem-solving and support strategies. To determine if there is a significant association in the mean scores between reading struggles and online reading strategies,

data is analysed using SPSS for correlations. Results are presented separately in table 3, 4, and 5 below. In the context of this study, online reading strategies are sub-categorised into global, problem-solving and support strategies.

Table 3-Correlation between Reading Struggles and Global Reading Strategies

Correlations

		READINGSTRUGGLES	GLOBAL
READINGSTRUGGLES	Pearson Correlation	1	-.017
	Sig. (2-tailed)		.855
	N	123	123
GLOBAL	Pearson Correlation	-.017	1
	Sig. (2-tailed)	.855	
	N	123	123

Table 3 shows there is no association between reading struggles and global reading strategies.

Table 4-Correlation between Reading Struggles and Problem-Solving Reading Strategies

Correlations

		READINGSTRUGGLES	PROBLEMSOLVING
READINGSTRUGGLES	Pearson Correlation	1	.042
	Sig. (2-tailed)		.646
	N	123	123
PROBLEMSOLVING	Pearson Correlation	.042	1
	Sig. (2-tailed)	.646	
	N	123	123

Table 4 shows there is no association between reading struggles and problem-solving reading strategies.

Table 5-Correlation between Reading Struggles and Support Reading Strategies

Correlations

		READINGSTRUGGLES	SUPPORT
READINGSTRUGGLES	Pearson Correlation	1	.192*
	Sig. (2-tailed)		.033
	N	123	123
SUPPORT	Pearson Correlation	.192*	1
	Sig. (2-tailed)	.033	
	N	123	123

*. Correlation is significant at the 0.05 level (2-tailed).

Table 5 shows there is an association between reading struggles and support reading strategies. Correlation analysis shows that there is a low significant association between reading struggles and support reading strategies ($r=.192^*$) and ($p=.000$). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a weak positive relationship between reading struggles and support reading strategies.

5.0 CONCLUSION

5.1 Summary of Findings and Discussions

Perceptions of Reading Struggles in Online Reading

Learners' experiences in online academic reading reveal a dynamic landscape shaped by a myriad of challenges. Notably, many respondents expressed feelings of linguistic inadequacy, believing that their peers possessed superior English language skills. This perception resonates with the wider literature highlighting language proficiency as a common hurdle in online academic reading (Anwar & Sailuddin, 2022). Furthermore, a significant number of participants reported experiencing anxiety in the context of online reading, indicating the emotional dimension of these challenges (Singh et al., 2023). These apprehensions and anxieties might influence learners' overall engagement and comprehension during online academic reading.

Utilising Global Reading Strategies

In exploring the strategies employed by learners to navigate online reading, the study unveils an array of approaches, with the strategic use of prior knowledge emerging as a prominent tactic. Learners often draw from their existing knowledge to enhance their understanding of online content, aligning with established literature (Amer, AL Barwani, & Ibrahim, 2010). However, variations exist in the adoption of global reading strategies, with a slightly lower inclination towards reviewing text characteristics, making thorough reading decisions, and leveraging visuals and context clues. This diversity highlights the personalised nature of strategy selection and application.

Employing Problem-Solving Reading Strategies

Responding to challenges in online reading, learners demonstrate proactive engagement through problem-solving strategies. A prevalent approach involves re-reading complex online text, underscoring the importance of active interaction with the material. Additionally, strategies such as refocusing attention and adjusting reading speed according to text complexity receive substantial endorsement. These findings mirror established literature, emphasising the significance of adapting reading strategies to overcome challenges (Hasyim et al., 2023). Overall, learners manifest a readiness to address reading difficulties by employing an array of problem-solving strategies.

Leveraging Support Reading Strategies

In the context of online reading challenges, learners employ diverse support reading strategies. Strategies such as considering information in multiple languages and utilising online dictionaries emerge as highly effective, aligning with the idea that tools and techniques can enhance comprehension (Abdul Rahim et al., 2023). Additionally, strategies like reading aloud and translation are perceived as relatively effective. However, certain strategies like paraphrasing, navigating back and forth in the text, and posing questions receive more moderate ratings. The study suggests that participants gravitate towards language-related support strategies when confronted with challenges in online reading.

Relationship Between Reading Struggles and Strategies

Finally, the exploration of the relationship between reading struggles and online reading strategies reveals nuanced insights. While no significant associations were found between reading struggles and either global or problem-solving reading strategies, a low significant association emerged with support reading strategies. This suggests a weak positive relationship, indicating that when students encounter difficulties in online reading, they tend to rely more on language-related support strategies. Understanding this relationship can inform educators in tailoring support strategies to address learners' specific needs in the online academic reading context. In sum, this comprehensive discussion of findings and their implications paints a vivid picture of learners' perceptions and strategies in online academic reading, highlighting the intricate interplay between challenges and adaptive approaches.

5.2 Pedagogical Implications and Suggestions for Future Research

Pedagogical Implications

1. *Language Proficiency Support:* The findings suggest that many learners perceive linguistic inadequacy as a significant challenge in online academic reading. This perception aligns with existing literature highlighting language proficiency as a common hurdle (Anwar & Sailuddin, 2022). Educators should consider implementing language support programs tailored to students' needs, including vocabulary enhancement and language workshops. These initiatives can help learners build confidence and competence in online academic reading.

2. *Emotional Well-being:* The study reveals that learners often experience anxiety during online reading. Acknowledging and addressing learners' emotional well-being is essential for effective learning (Singh et al., 2023). Educators should create a

supportive online learning environment that includes stress management resources, counselling services, and strategies for coping with academic anxiety. Encouraging learners to share their concerns and providing emotional support can enhance their overall experience.

3. *Personalised Strategy Guidance*: Learners employ a variety of reading strategies, indicating the personalised nature of strategy selection and application. Educators can provide guidance on recognizing one's preferred reading strategies based on individual learning styles (Amini et al., 2020). This can be achieved through workshops, self-assessment tools, and recommendations for aligning reading strategies with specific learning contexts.

4. *Language-Related Support*: The use of support reading strategies such as considering information in multiple languages and employing online dictionaries is prevalent among learners. Educators can promote the use of language-related support tools and techniques, including multilingual glossaries and online translation resources. Additionally, encouraging peer collaboration and discussions in multiple languages can foster a supportive learning community.

Suggestions for Future Research

1. *Exploring Multimodal Learning*: Future research can delve into the integration of multimedia elements (e.g., videos, infographics) in online academic reading materials. Investigate how learners perceive and utilise these multimodal resources to enhance comprehension and engagement. This research can shed light on effective strategies for designing multimedia-rich online reading materials.

2. *Longitudinal Studies*: Conduct longitudinal studies to track learners' progress in online academic reading over an extended period. Explore how learners' perceptions, strategies, and challenges evolve as they advance in their academic journeys. Long-term data can provide insights into the effectiveness of language support programs and emotional well-being interventions.

3. *Comparative Analysis*: Compare the online reading experiences of learners from diverse linguistic backgrounds and proficiency levels. Investigate whether the challenges and strategies employed differ among these groups. This comparative analysis can inform tailored pedagogical approaches for learners with varying language backgrounds.

4. *Technological Interventions*: Explore the potential of technological interventions, such as adaptive reading platforms and language enhancement apps, in supporting learners during online academic reading. Evaluate the impact of these interventions on language proficiency, strategy adoption, and emotional well-being.

By considering these pedagogical implications and future research suggestions, educators and researchers can contribute to improving the online academic reading experiences of learners and addressing the challenges they face.

REFERENCES

- Abdul Rahim, M., Zainuddin, A., Mahamad Aziz, F. M., Mohd Shazilli, M. S., Shaiful Nizam, S. N., & Rahmat, N. H. (2023). Perceived Use of Online Reading Strategies Online Reading Problems: A Study of Relationships between Reading Strategies. *International Journal of Academic Research in Business and Social Sciences*, 13(7). <https://doi.org/10.6007/ijarbss/v13-i7/17188>

- Abdullahi, A., & Rouyan, N. B. M. (2018). The use of web 2.0 technologies to determine receptive skills among Malay learners of the Arabic language. *International Journal of Asian Social Science*, 8(9), 651-659. doi: 10.18488/journal.1.2018.89.651.659
- Abeeleh, T.W.A. and Al-Sobh, M. Reading Comprehension Problems Encountered by EFL Students at Aljoun National University. *International Journal of Language and Linguistics*, Vol 8(1), pp6-15. Retrieved from https://ijllnet.com/journals/Vol_8_No_1_March_2021/2.pdf
- Amer, A., AL Barwani, T., Ibrahim, M. (2010) Student Teachers' Perceived Use of Online Reading Strategies. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, Vol 6(4), pp 102-113. Retrieved from <http://ijedict.dec.uwi.edu>
- Amini, M., Zahabi, A., Amini, D., & Hosseini, S. S. A. (2020). A Review of Reading Strategies and Models in Learning and Teaching of English as a Foreign Language. *AJELP: Asian Journal of English Language and Pedagogy*, 8(2), 14–26. <https://doi.org/10.37134/ajelp.vol8.2.2.2020>
- Annamalai, S., Muniandy, B. (2013). Reading habit and attitude among Malaysian Polytechnic students. *International Online Journal of Educational Sciences*.; 5(1) : 32-41.
- Anggraini, M. P., Cahyono, B. Y., Anugerahwati, M., & Ivone, F. M. (2022). The interaction effects of reading proficiency and personality types on EFL university students' online reading strategy use. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-022-10979-9>
- Anwar, I. W., & Sailuddin, S. P. (2022). Academic reading difficulties in higher education. *Journal of Languages and Language Teaching*, 10(2), 309-314.
- Azmuddin, Ruhil Amal, Nor Fariza Mohd Nor, and Afendi Hamat. (2017). "Metacognitive online reading and navigational strategies by science and technology university students." *GEMA Online® Journal of Language Studies* 17(3).
- Baron, N.S., (2021) *How We Read Now: Strategic Choices for Print, Screen, and Audio*. Oxford: Oxford University Press.
- Baron, N.S., (2015). *Words Onscreen: The Fate of Reading in a Digital World*. Oxford: Oxford University Press.
- Baron, N.S., and Mangen A., (2021). Doing the reading: the decline of long long-form reading in higher education. *Poetics Today* 42(2): 253–279.
- Bocanegra-Valle, A. (2010). Evaluating and designing materials for the ESP classroom. In M. F. Ruiz Garrido, J. C. Palmer-Silveira, & I. Fortanet-Gómez (Eds.), *English for professional and academic purposes* (pp. 141-167). Rodopi. https://doi.org/10.1163/9789042029569_011
- Breeze, R., & Sancho Guinda, C. (2017). Genre-based strategies for integrating critical and creative thinking in engineering and journalism. *ESP Today*, 5(2), 196-221. <https://doi.org/10.18485/esptoday.2017.5.2.4>
- Carr, N., (2010). *The Shallows: What the Internet Is Doing to Our Brains*. Updated ed. New York: W. W. Norton & Company.
- Chee, V., Pandian, A. (2012). University students' interaction with print and technology. *International Journal of Arts & Sciences*.; 5(5): 377-385.
- Chen, K. T.-C. (2023). The correlation of EFL graduate students' strategies and attitude toward reading English e-journal articles. *International Journal of Instruction*, 16(2), 1059–1076. <https://doi.org/10.29333/iji.2023.16256a>

- Chin, C. (2023). *Digital policy ready soon*. The Star. <https://www.thestar.com.my/news/education/2023/05/21/digital-policy-ready-soon>
- Ciornei, S. I., & Dina, T. A. (2015). Authentic texts in teaching English. *Procedia – Social and Behavioral Sciences*, 180, 274-279. <https://doi.org/10.1016/j.sbspro.2015.02.116>
- Colbjornsen T (2020). The streaming network: conceptualizing distribution economy, technology, and power in streaming media services. *Convergence* 27: 966911.
- Das R and Ytre-Arne B (eds) (2018). *The Future of Audiences: A Foresight Analysis of Interfaces and Engagement*. New York: Palgrave Macmillan.
- Dijck J, van Poell T, Waal M, et al. (2018). *The Platform Society: Public Values in a Connective World*. Oxford: Oxford University Press.
- Dockter, Jason. (2016). "The problem of teaching presence in transactional theories of distance education." *Computers and Composition* 40: 73–86.
- Edward, E. I., Kamlun, K., Din, W. A., Pudir, C. S. J. (2021). Reading Difficulties Among Malaysian Undergraduate ESL Learners: A Preliminary Study. *International Journal of Education, Psychology and Counseling*, 6 (43), 62-70.
- Firth, J., Torous, J., Stubbs, B., et al. (2019) The 'online brain': how the Internet may be changing our cognition. *World Psychiatry* 18(2): 119–129.
- Hasyim, M. W., Alaydrus, Y., & Rahmati, N. A. (2023). *Exploring Reading Strategies used by High Achiever* (pp. 1–13). Jurnal Penelitian, Pendidikan, dan Pembelajaran
- Hooper, V., & Channa, H. (2014). "Is Google Making Us Stupid? The Impact of the Internet on Reading Behaviour." In *2014 Proceedings 27th BLED E-Conference*. <http://aisel.aisnet.org/bled2014/1>.
- Jackson, M. (2018). *Distracted: Reclaiming Our Focus in a World of Lost Attention*. Buffalo, NY: Prometheus Books.
- Jackson, S.L. (2015) *Research methods and Statistics-A Critical Thinking Approach* (5th Edition) Boston, USA:: Cengage Learning.
- Jernigan, C. (2017). Authentic learning and student motivation: Building instructor and student confidence through genuine interaction and authentic classroom materials. In R. Breeze, & C. Sancho Guinda (Eds.), *Essential competencies for English-medium university teaching* (pp. 281-294). Springer.
- Jincheng, Z., & Rahmat, N. H. (2022). Investigating the Use of Metacognitive Reading Strategies Using Think Aloud Protocol. *International Journal of Academic Research in Business and Social Sciences*, 12(10), 772 – 784.
- Kovah, M., & Van der Weel, A. (2018) Reading in a post-textual era. *First Monday* 23: 9416.
- Kuzmi416., A., Schilhab, T., & Burke, M. (2020) m-reading: fiction reading from mobile phones. *Convergence* 26(2): 333–349.
- Lai, H. K. (2021). The effectiveness of teaching reading skills using communicative approach in Malaysian secondary homeschooling ESL classroom. *International Journal of Linguistics, Literature, and Translation*, 4(1), 131-158.
- Lamo, P., Dhuli, R., & Larsari, V. N. (2021). Effects Of Metacognitive Strategies On The English Reading Skill Of EsL Learners: An Evidence-Based Research.
- Lesiak-Bielawska, E. D. (2015). Key aspects of ESP materials selection and design. *English for Specific Purposes World*, 46, 1-26. Retrieved from http://www.philologist.com/Articles_46/ESPmaterialsLesiak-Bielawska.pdf
- Mangen A, Sonneland M, Senter N, et al. (2021) *The possibilities and challenges of long*

literary reading in the age of digitalisation
https://www.videnomlaesning.dk/media/3852/29_anne-mangen_margrethe-sonneland.pdf

- Mangen, A., & Van der Weel A., (2016) The evolution of reading in the age of digitisation: an integrative framework for reading research. *Literacy* 50(3): 116–124.
- Mangen, Anne, Bente R. Walgermo, and Kolbjørn Brønnick. (2013). "Reading linear texts on paper versus computer screen: Effects on reading comprehension." *International Journal of Educational Research* 58: 61–68.
- Martínez-Sáez, A. (2019). Analysing the degree of specialisation of a selection of biotechnological texts and their role in an English for professional and academic communication course. In C. Calle-Martínez, & S. Madarova (Eds.), *Focus on learning: Contribution to the field of ESP*. Universidad Camilo José Cela.
- Munawarah, M., Alfatihah, A., Nurhaliyani, N., Fatimatuzzuhroni, S., & Jaelani, S. R. (2023). Academic Journal: Revealing EFL Students' Challenges In Reading. *Faidatuna*, 4(3), 59-66.
- Musa, N.C., Lie, K.Y., Azman, H. (2012). Exploring English language learning and teaching in Malaysia. *GEMA Online® Journal of Language Studies*. 12(1): 271-282.
- Mustafa, Z. (2018). *Boosting the reading habit*. New Straits Times. <https://www.nst.com.my/education/2018/07/394232/boosting-reading-habit>
- Noorezam, M., Rahmat, N. H., Sim, M. S., Zakaria, M., Noh, M., Aripin, N., & Mukhtar, Z. A. (2022). Reading at The University: Difficulty vs Fear. *Social Sciences*, 12(8), 282-296.
- Rahmat, N.H., Sakkanayok, K., Taib, S.A, Jenal, N., Adam, S., Abidin, N.S.Z., & Varma, S.B. (2022) Exploring Relationship between Reading Difficulties and Reading Strategies. *International Journal of Academic Research in Business and Social Sciences*, Vol 12(9), pp 918-930. <http://dx.doi.org/10.6007/IJARBSS/v12-i9/14719>
- Sandberg, K. (2011). College Student Academic Online Reading: A Review of the Current Literature. *Journal of College Reading and Learning*, 42(1), 89–98. <https://doi.org/10.1080/10790195.2011.10850350>
- Sani, S., & Ismail, H. H. (2021). Assessing the Use of Learning Strategies among Young Malaysian English as Second Language Learners. *Creative Education*, 12, 2124-2145. <https://doi.org/10.4236/ce.2021.129163>
- Satriani, E. (2018). Reading comprehension difficulties encountered by english students of Islamic University of Riau. *J-SHMIC: Journal of English for Academic*, 5(2), 15-26.
- Shah, S. H. R., Kadir, D. Z. A., & Naveed, S. (2022). Factors Affecting English Reading Skills At Collegiate Level In Pakistan. *Journal of Positive School Psychology*, 6(11), 1863–1876. <https://journalppw.com/index.php/jpsp/article/view/14319#:~:text=The%20findings%20of%20the%20research>
- Singh, K. K. M., Chu, I. L. Y., Bee, A. A. M., Lourduathan, J., Keat, Y. C., & Rahmat, N. H. (2023). The Relationship between Reading Difficulties and Reading Strategies among ESL Learners in Malaysia.
- Spilker, H.S., & Colbjornsen, T., (2020). The dimensions of streaming: toward a typology of an evolving concept. *Media, Culture & Society* 42(7–8): 1210–1225.
- Surendran, K. R., & Bojiah, J. (2023). Effectiveness of the Reading Strategies Used by Engineering Students at the Undergraduate Level. *Rupkatha Journal*, 15(2), 1–12. <https://doi.org/10.21659/rupkatha.v15n2.18>
- Syvertsen, T., (2020). *Digital Detox: The Politics of Disconnecting*. Bingley: Emerald Publishing Limited.

- Terranova, T., (2012). Attention, economy and the brain. *Culture Machine* 13.
<https://culturemachine.net/wp-content/uploads/2019/01/465-973-1-PB.pdf>
- Twenge, J.M., Martin, G.N., & Spitzberg, B.H. (2019). Trends in U.S. adolescents' media use, 1976–2016: the rise of digital media, the decline of TV, and the (near) demise of print. *Psychology of Popular Media Culture* 8(4): 329–345.
- Wolf, M. (2018). *Reader, Come Home: The Reading Brain in a Digital World*. New York: Harper.
- Wong, C. (2018). *Only 25% prefer physical book, 12.5% read print newspaper in Malaysia*. Silver Mouse. <https://www.silvermouse.com.my/blog/ebook-print-newspaper-trend-statistic-malaysia/>
- Yunus, K., Mohamad, M., & Waelateh, B. (2016). The Breadth of Receptive Vocabulary Knowledge among English Major University Students. *Journal of Nusantara Studies (JONUS)*, 1, 7-17. <https://doi.org/10.24200/jonus.vol1iss1pp7-17>