Perceived Difficulties and Use of Online Reading Strategies: A Study among Undergraduates

Sharifah Amani Syed Abdul Rahman[1], D Rohayu Mohd Yunos[2], Wararat Whancit[3], Noor Hanim Rahmat[4], Nurizah Md. Ngadiran[5]

[1,2,4]Akademi Pengajian Bahasa, Cawangan Johor, Kampus Pasir Gudang, [3]School of Liberal Arts, Walailak University, Tha Sala, Nakhon Si Thammarat, Thailand, [5]Pusat Pengajian Bahasa, Universiti Tun Hussein Onn Malaysia
Email: droha932@uitm.edu.my, wararatanoi@gmail.com, noorh763@uitm.edu.my, nurizah@uthm.edu.my
Corresponding Author Email: shari348@uitm.edu.my

Abstract
Online reading materials are considered as one of the important sources for EFL students. This is caused by the increasing number of learners who read texts and learn from online sources. The purpose of this quantitative research is to investigate the perceived use of online reading strategies among undergraduate students. To achieve the objective of the research, a 5 Likert-scale survey based on reading difficulties (Abeeleh and Al-Sobh, 2021) and online reading strategies proposed by Amer et al (2010) is utilised. This survey focuses on reading difficulties, global reading strategies, problem-solving reading strategies and support reading strategies. The survey obtained responses from 232 participants. Findings of the research suggested that, relating to reading difficulties, it is pertaining to the students' perception that made them feel that reading academic texts is a difficult task. Looking at the global strategies and problem-solving strategies, these learners have the tendency to refocus their attention, so that they are able to obtain better comprehension of the academic texts. In relation to supporting reading strategies, the learners depended on their translation abilities, as well as referred to other materials to gain more understanding. Several pedagogical implications are also addressed in the present study.
Keywords: Reading Strategies, Online Reading Strategies, Quantitative Research, Academic Text

Introduction
Background of Study
According to Sengupta (2002), academic reading can be defined as purposeful and critical reading of a series of longer academic reading texts to complete the study of specific subject

areas. This type of reading also differs from other forms of reading. This is due to the fact that academic reading is complex and discipline-specific, carefully synthesizing material from a range of sources. In addition, it requires a conscious recognition of the author's intentions and purposes. On the other hand, Bunch et al (2020) stated that many underprepared EFL learners face significant challenges in meeting the demands of academic reading when they enter college. Some of the learners lose confidence and eventually resort to translated versions in order for them to pass exams and assignments (Dwivedi et al., 2023). As a result, their English skills deteriorate.

As for second language learner's reading ability and English proficiency, both aspects are influenced by his or her reading comprehension as an English as a Second Language or English as a Foreign Language (ESL/EFL) learner (Gilakjani & Sabouri, 2016). Since researchers have claimed that reading comprehension has affected reading ability (Elleman& Oslund, 2019), a number of studies have been conducted to improve ESL/EFL learners' reading comprehension by looking at the strategies used by the learners during reading activities. Some of the strategies reviewed are scaffolding (Shirmohammadi & Salehi, 2017) and visual organisation (Saddhono et al., 2020)

Statement of Problem

The efficient application of reading methods has been acknowledged as a crucial way to improve reading comprehension. Comparatively few researchers have looked into online reading practices, or reading on the internet. Study done by Amer et al (2010) looks at senior student teachers and first-year EFL students from Omani universities' online reading strategies. For use in this study, the Survey of Reading Strategies (SORS) Sheorey & Mokhtari (2001) was modified. Global, problem-solving, and support strategies are the three categories into which this survey divides reading strategies. Results revealed only a statistically significant difference in global strategies between fourth-year students and first-year students. The results of other studies, which showed that high-proficient readers employ more global strategies than low-proficient readers, were consistent with this. Additionally, first-year students said they utilize more coping mechanisms than did seniors. Additionally, there was no statistically significant gender difference between the two groups.

However, there are four biggest challenges for today's learners when it comes to online reading strategies. These include 1) comprehending and mastering the new literacy techniques and abilities required for online research, 2) acquiring a specific type of digital wisdom that focuses on learning how to learn using the Internet, and 3) building a distinctive sort of digital wisdom. 3) Taking up new challenges 4) fostering good attitudes towards utilising the Internet for academic work. Roles in a digital culture that expects learners to actively participate and contribute with new information as a member of their community.

A study done by Karbalei (2010) looked into whether or not EFL and ESL readers' metacognitive reading methods differ noticeably while they are reading academic texts in English. After taking a reading comprehension test, 180 undergraduate students (96 Iranians and 93 Indians) completed a questionnaire meant to gauge their metacognitive awareness of reading methods. The findings of this study showed that despite the fact that the two student groups had attended school in quite different socio-cultural contexts, they had reported similar patterns of strategy awareness when reading academic literature. Regarding the distinction between the two groups, Indians claimed to be more aware of and to apply

comprehensive metacognitive reading procedures. There was no discernible difference in the use of problem-solving reading strategies indicated by Iranian students.

Another study was done by (Semtin and Maniam, 2015). Grounded on the findings from the questionnaires and interviews, the scholars have used colorful reading strategies. The use of particular reading strategies is inferred as independent efforts to come up with more complete compendiums grounded on the reading purposes and task conditions. Still, analysis of collected data from the questionnaire showed that the frequency of reported reading strategies is moderate. The results show that the frequency of using cognitive strategies used by the scholars is nearly equal to the use of metacognitive strategies. The strategy of restatement(M = 3.88) is the most constantly used one in the cognitive strategy order, while the strategy of skimming with the smallest mean of 2.75 is occasionally used by the scholars in the cognitive strategy order. The sequences of 10 subcategories of cognitive strategies are restatement, reiteration, inferring, guessing, note- taking, vaticination, summarising, analysing, and skimming. In the metacognitive order, the strategy of picky attention which involves paying attention to the questions and memorising them before reading the textbook has the loftiest mean of 3.26 and it is occasionally used by actors. The strategy of advanced organisation which involves planning on how to complete reading tasks has the smallest mean of 2.36 and it's generally not used by the scholars. Analysis of the data gathered from the interviews elicits further unpredicted responses on scholars' comprehensions on their use of reading strategies. Although a variety of strategies were inferred in their responses, some strategies are analogous to some of those mentioned in the questionnaire. The scholars indicated their use of cognitive strategies similar as resourcing, reiteration, guessing, grouping, note- taking, summarising, recombination and elaboration. They also inferred in their responses that they use metacognitive strategies similar as picky attention, directed attention, monitoring, and evaluation.

Based on the findings, it's noteworthy that the use of particular reading strategies are associated with students' learning habits of getting independent compendiums with the breadth of expansive reading, their reading purposes and task conditions.

Objective of the Study and Research Questions
This study is done to explore the reading difficulties and online reading strategies among undergraduates. Specifically, this study is done to answer the following questions;
- How does the perception of reading comprehension difficulties influence online reading?
- How do the use of global reading strategies influence online reading?
- How do the use of problem-solving reading strategies influence online reading?
- How do the use of support reading strategies influence online reading?
- Is there a relationship between reading comprehension difficulties and online reading strategies?

Literature Review
Academic Reading
Generally, academic reading texts are challenging because they are longer than general reading texts, the paragraphs are denser and contain complex sentences and difficult

vocabulary. To read effectively, students need to bring their prior knowledge and appropriate vocabulary to the reading process (Andrés, 2020). The nature of reading at university is quite different from reading at high school. Atayeva et al (2019) mentioned that students feel more challenged when reading academic texts in English. English reading assignments are also common in higher education. Students are often required to read various English reading sources such as textbooks and journal articles. Low motivation and interest in reading English language texts affect students' success in learning English (Getie, 2020). Students usually refuse to engage in further reading comprehension tasks unless teachers assign them. Moreover, students who do not bring their prior knowledge related to the given text are more likely not to engage in the reading task (Gustanti & Ayu, 2021).

Online Reading Strategies
Today's students are expected to read online effectively and efficiently. The time has come to give them enough practice and training in strategy to live up to these demands. The results of studies done over the past ten years show that there are significant differences between reading on paper and reading on a screen, and that it is important to practice both fluency and reading strategies with digital texts.

Past Studies on Online Reading Strategies
A number of studies on English as a Foreign Language (EFL) or English as a Second Language (ESL) have produced a list of strategies for reading papers. In contrast, few studies have examined online reading strategies
One such study is by (Huang et al., 2009). This study investigated the online reading strategies of EFL learners and the effect of strategy use on comprehension. A web-based reading program, English Reading Online, was created to serve the purpose of this study. He divided 30 of his applied English majors into high and low proficiency groups and asked them to read four authentic online texts. Two were appropriate for the student's ability level and two were more difficult. Data analysis showed that the use of supporting strategies dominated the use of strategies and contributed to most improvements in comprehension, but when relying solely on supporting strategies, students were less likely to have major ideas when reading more difficult texts. and did not predict the increase in detail score well. Overall, the use of global strategies contributed significantly to improving comprehension, especially among underperforming students.
Another study was by Amer et al (2010) in which they investigate the online reading strategies of undergraduates and student teachers at EFL University in Oman.The Survey of Reading Strategies (SORS) (Sheorey & Mokhtari, 2001) was adopted for use in this study.The study categorized reading strategies into three categories:Global problem solving and support strategy.Results showed that there was a statistically significant difference between fourth graders and her first graders only with respect to global strategies.This is in line with other research findings showing that high literacy readers adopt more global strategies than low literacy readers. Additionally, freshmen reported using more support strategies than seniors. Furthermore, there were no statistically significant differences regarding gender in either group.

Conceptual Framework

The framework of this study is rooted from Abeeleh and Al-Sobh's (2021) difficulties in reading. Among some of the difficulties faced by academic readings are understanding new words, identifying aim, guessing meaning, distinguishing main ideas, extracting supporting ideas, or even summarising. In addition to that according to Rahmat et al (2020), some academic readers also have difficulties in understanding the content of the text. Some may face difficulties because they lacked the vocabulary needed to understand the text. Next, this study also adopts the inventory of online reading strategies by (Amer et al., 2010). They listed three important online strategies such as global reading strategies, problem-solving reading strategies and support reading strategies. In the context of this study, the research explores the relationship between reading difficulties and online strategies (figure 1).
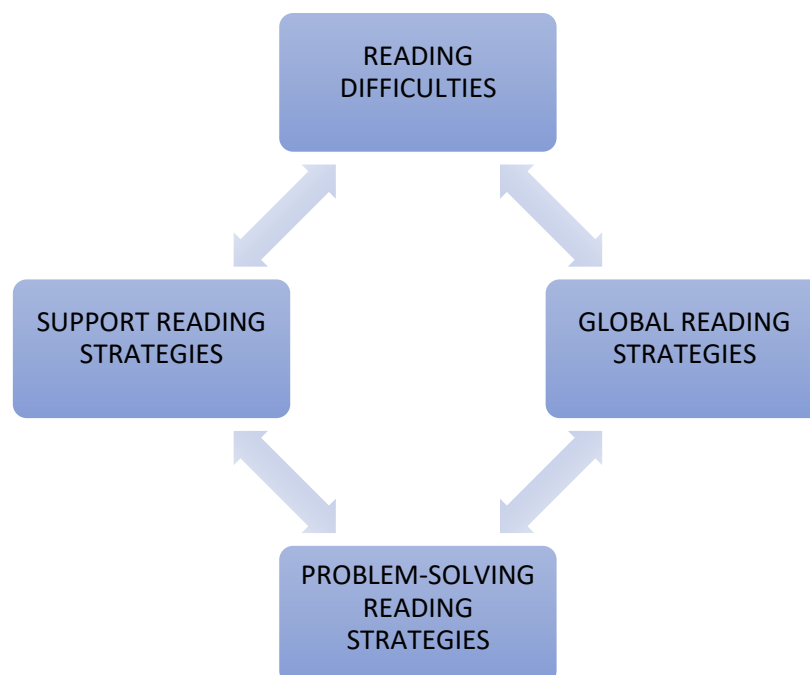

Figure 1- Conceptual Framework of the Study
Relationship between Reading Difficulties and Online Reading Strategies

Methodology

This quantitative study is done to explore motivation factors for learning among undergraduates. A purposive sample of 232 participants responded to the survey. The instrument used is a 5 Likert-scale survey and is rooted from reading difficulties (Abeeleh and Al-Sobh, 2021) and online reading strategies by Amer et al (2010) 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 difficulties. Section C has 17 items on global reading strategies. Section D has 8 items on problem-solving reading strategies and section E has 9 items on support reading strategies.

Table 1
Distribution of Items in the Survey

SECTION	VARIABLE	NO OF ITEMS
B	Reading Difficulties	14
C	Global	17
D	Problem-Solving	8
E	Support	9
		48

Table 2
Reliability of Survey

Reliability Statistics

Cronbach's Alpha	N of Items
.938	48

Table 2 shows the reliability of the survey. The analysis shows a Cronbach alpha of 938, thus, revealing a good reliability of the instrument chosen/used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

Findings
Findings for Demographic Profile

Q1 Gender
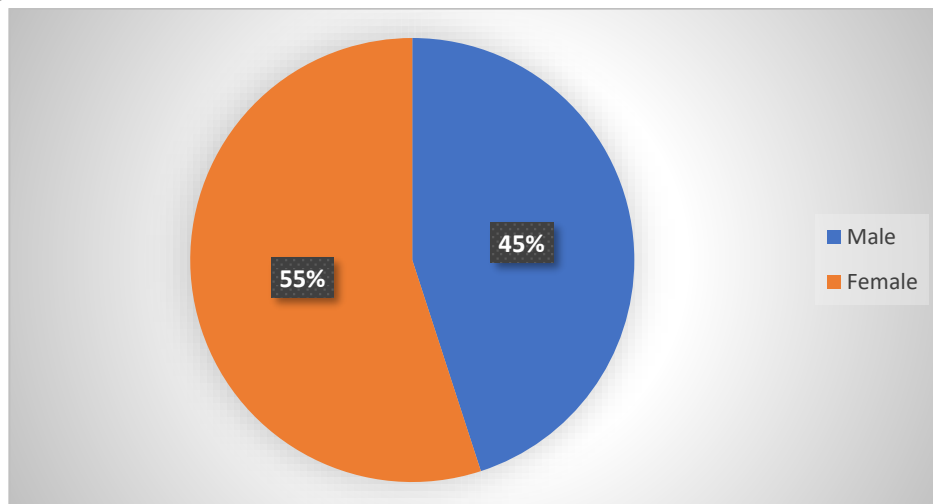
Figure 2- Percentage for gender
Figure 2 shows the percentage for gender. 45% are male and 55% are female participants.
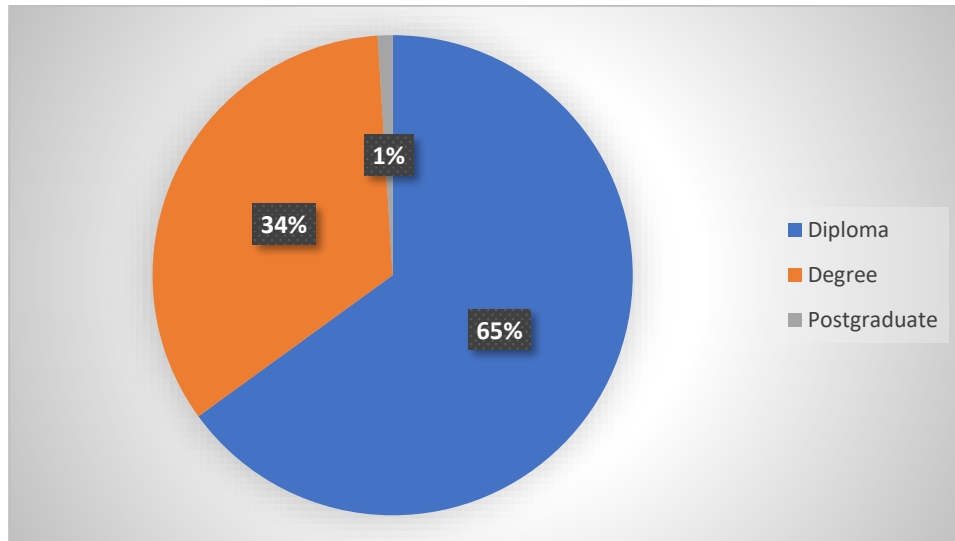
Q2 Level of Study

Figure 3- Percentage for Level of Study
Figure 3 shows the percentage for level of study. 65% are diploma students. 34% are students doing their degree and 1% are postgraduate students.
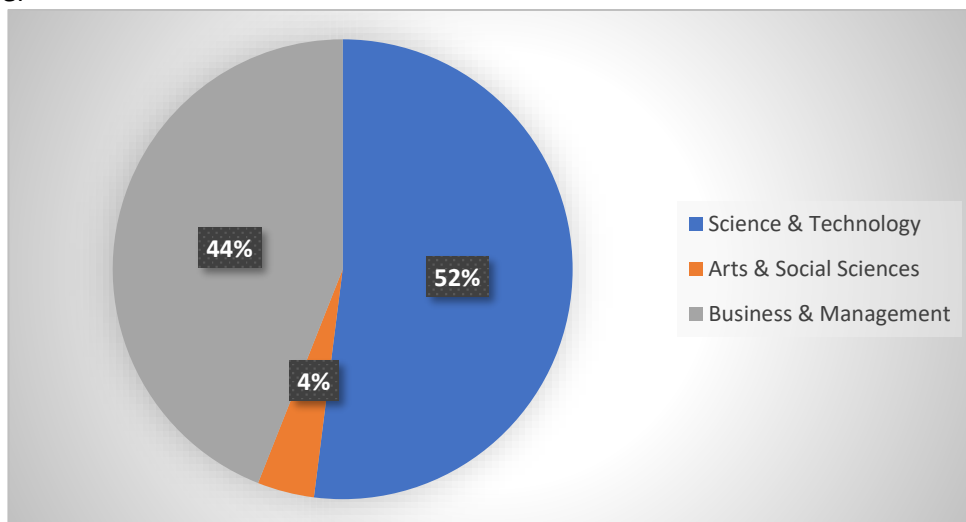
Q3 Cluster

Figure 4- Percentage for Cluster

Figure 4 shows the percentage for cluster. 52% are from science & technology. 4% are from are and social sciences and 44% are from business & management.
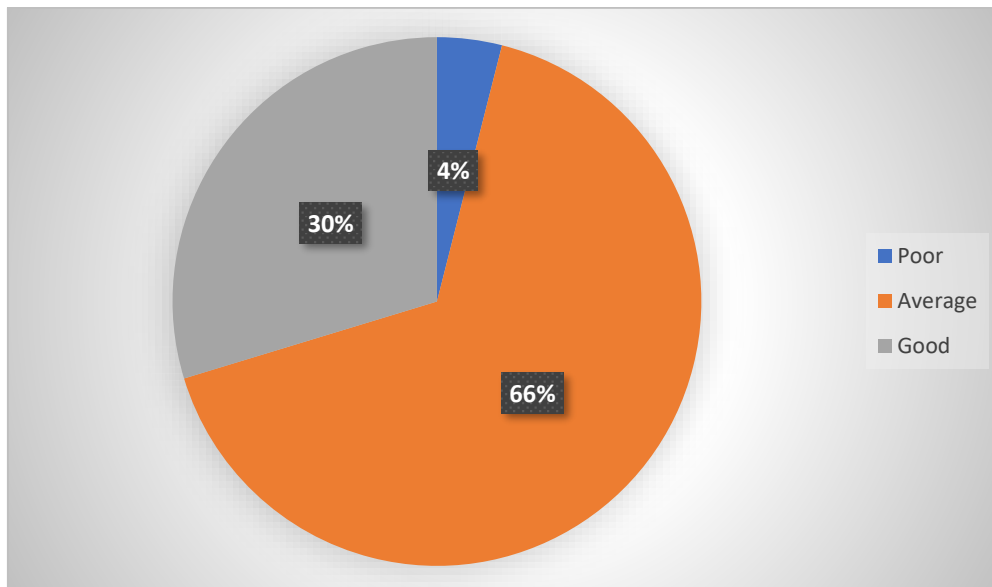
Q4 English Proficiency

Figure 5- Percentage for English proficiency

Figure 5 presents the percentage for English proficiency. 3% claimed their proficiency is poor. 67% claimed they are average and 30% claimed they are good.
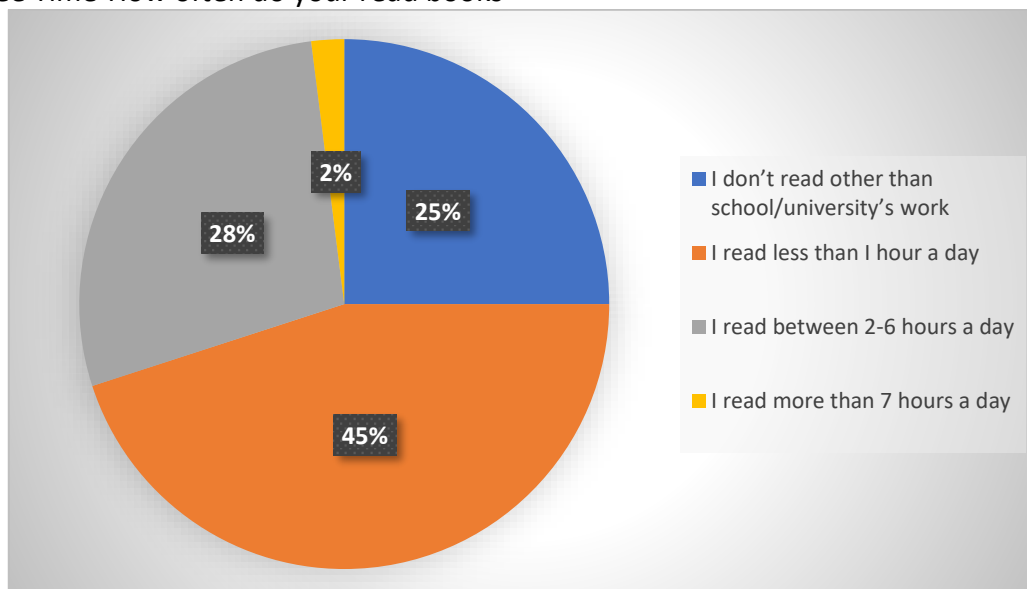
Q5 Free Time-How often do your read books

Figure 6- Percentage for Free Time

Figure 6 presents the percentage for free time of the respondents. 25% said they did not read other than their school/university's work. 45% said they read less than 1 hour a day. 28% said they read between 2-6 hours a day while 2% said they read more than 7 hours a day.
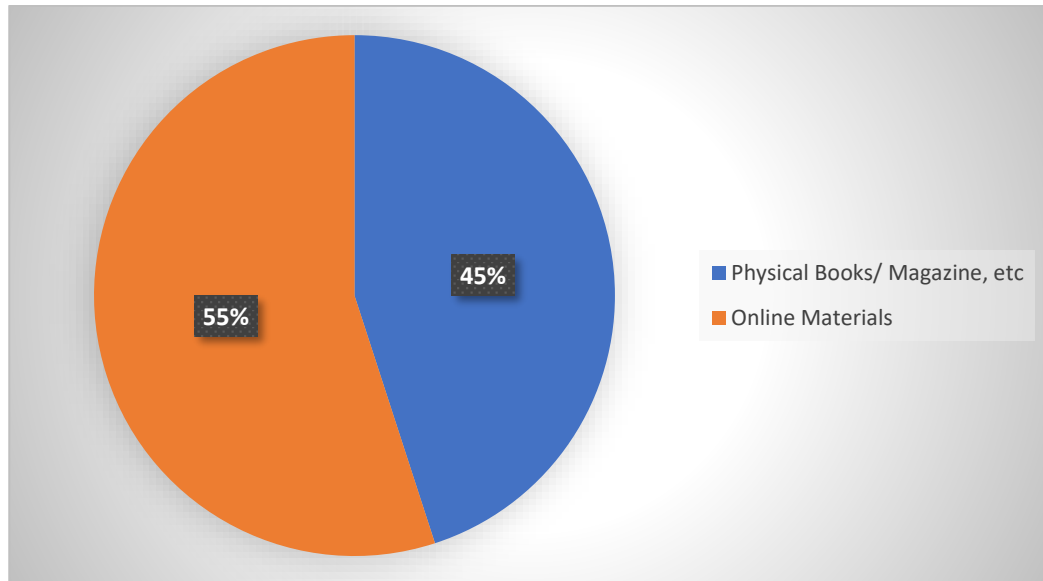
Q6 Reading Preference

Figure 7- Percentage for Reading Preference

Figure 7 shows the percentage for reading preference. 45% said they preferred physical books/magazines. 55% said they preferred online materials.
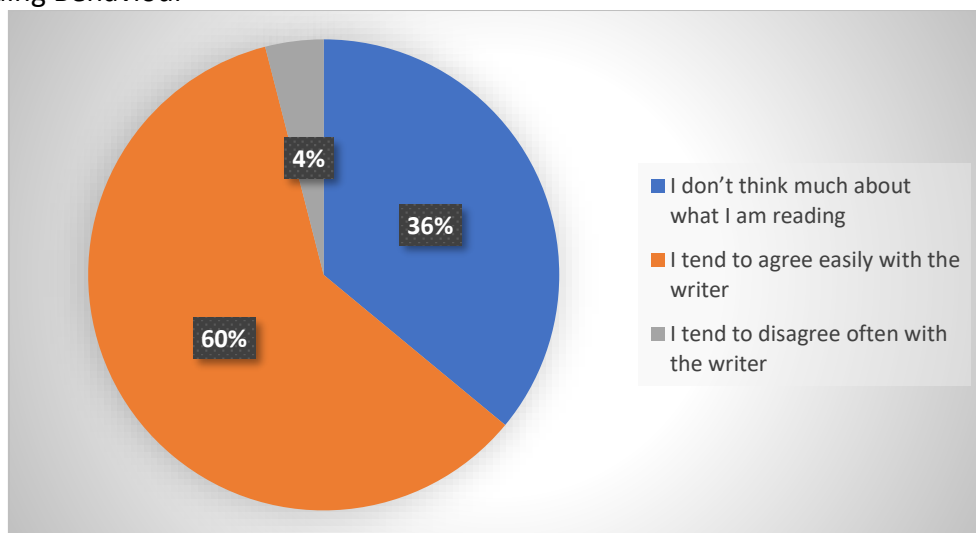
Q7 Reading Behaviour

Figure 8- Percentage for Reading Behaviour

Figure 8 shows the percentage for reading behaviour of participants. 36% said they did not think much about what they were reading. 60% tend to agree easily with what they read. 4% tend to disagree often with what they read.

Findings for Reading Difficulties

This section presents data to answer research question 1- How does the perception of reading comprehension difficulties influence online reading?
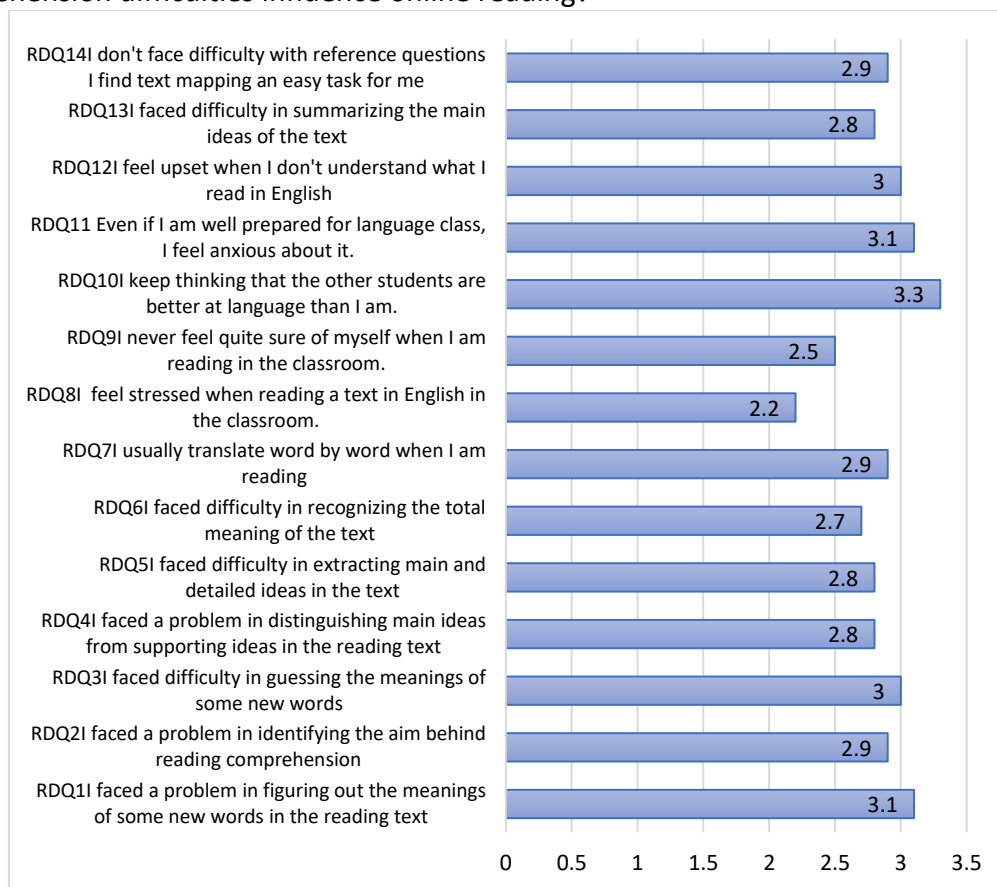

Figure 9- Mean for Reading Difficulties

Figure 9 shows the mean for reading difficulties. The highest mean of 3.3 is for "keep thinking that the other students are better at language than I am". This is followed by two items for the mean of 3.1 and they are "faced a problem in figuring out the meanings of some new words in the reading text" and "Even if I am well prepared for language class, I feel anxious about it". The lowest mean is 2.2 for the item "feel stressed when reading a text in English in the classroom".

Findings for Global Reading Strategies
This section presents data to answer research question 2- How do the use of global reading strategies influence online reading?
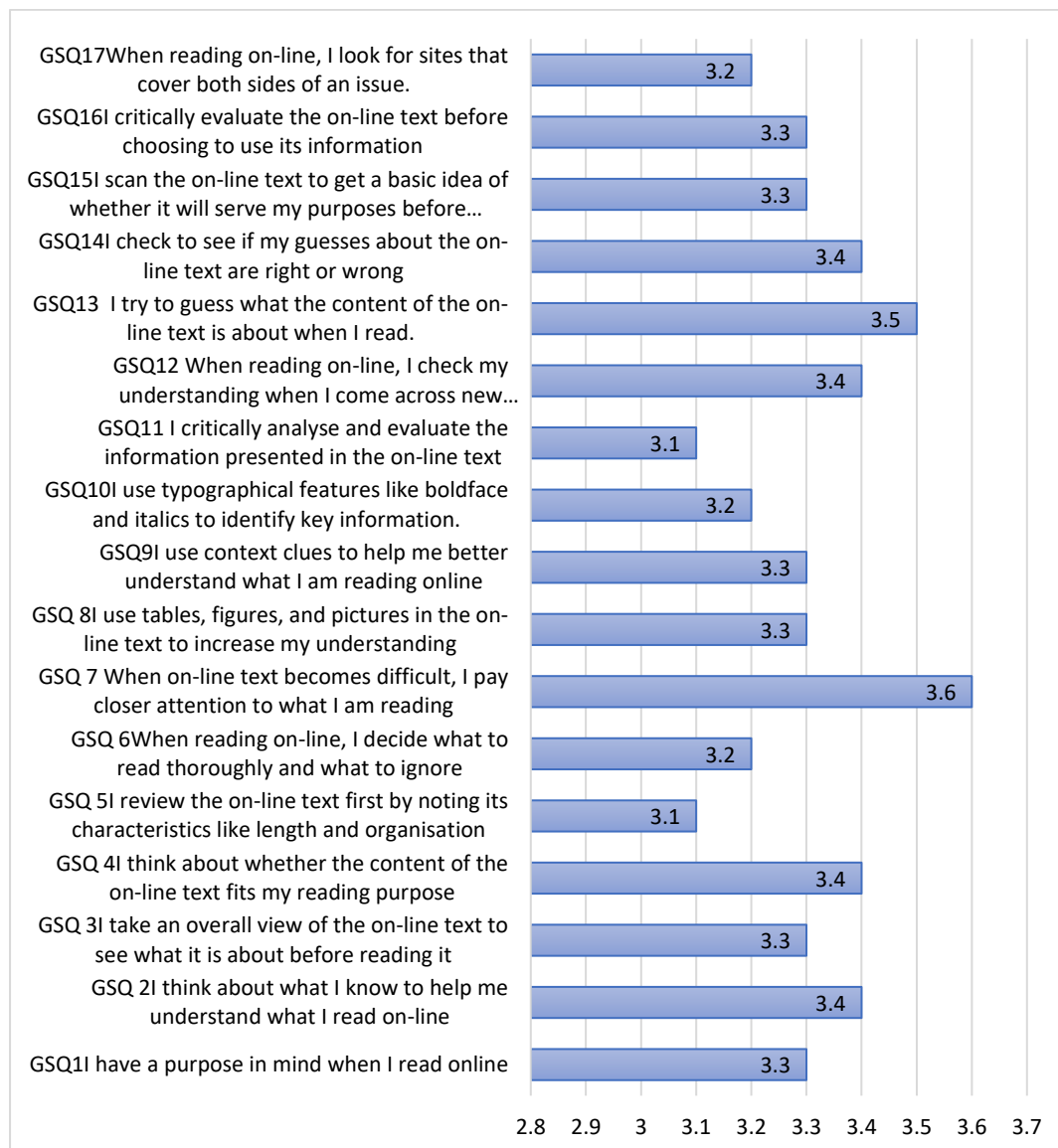
GLOBAL STRATEGIES

Figure 10- Mean for Global Reading Strategies

Figure 10 presents the mean for global reading strategies. The highest mean is 3.6 for the item "When on-line text becomes difficult, I pay closer attention to what I am reading". This is followed by the mean of 3.5 for "I try to guess what the content of the on-line text is about when I read". Two items share the lowest mean of 3.1 and they are "review the on-line text first by noting its characteristics like length and organisation" and "I critically analyse and evaluate the information presented in the on-line text"

Findings for Problem-Solving Reading Strategies
This section presents data to answer research question 3- How do the use of problem-solving reading strategies influence online reading?
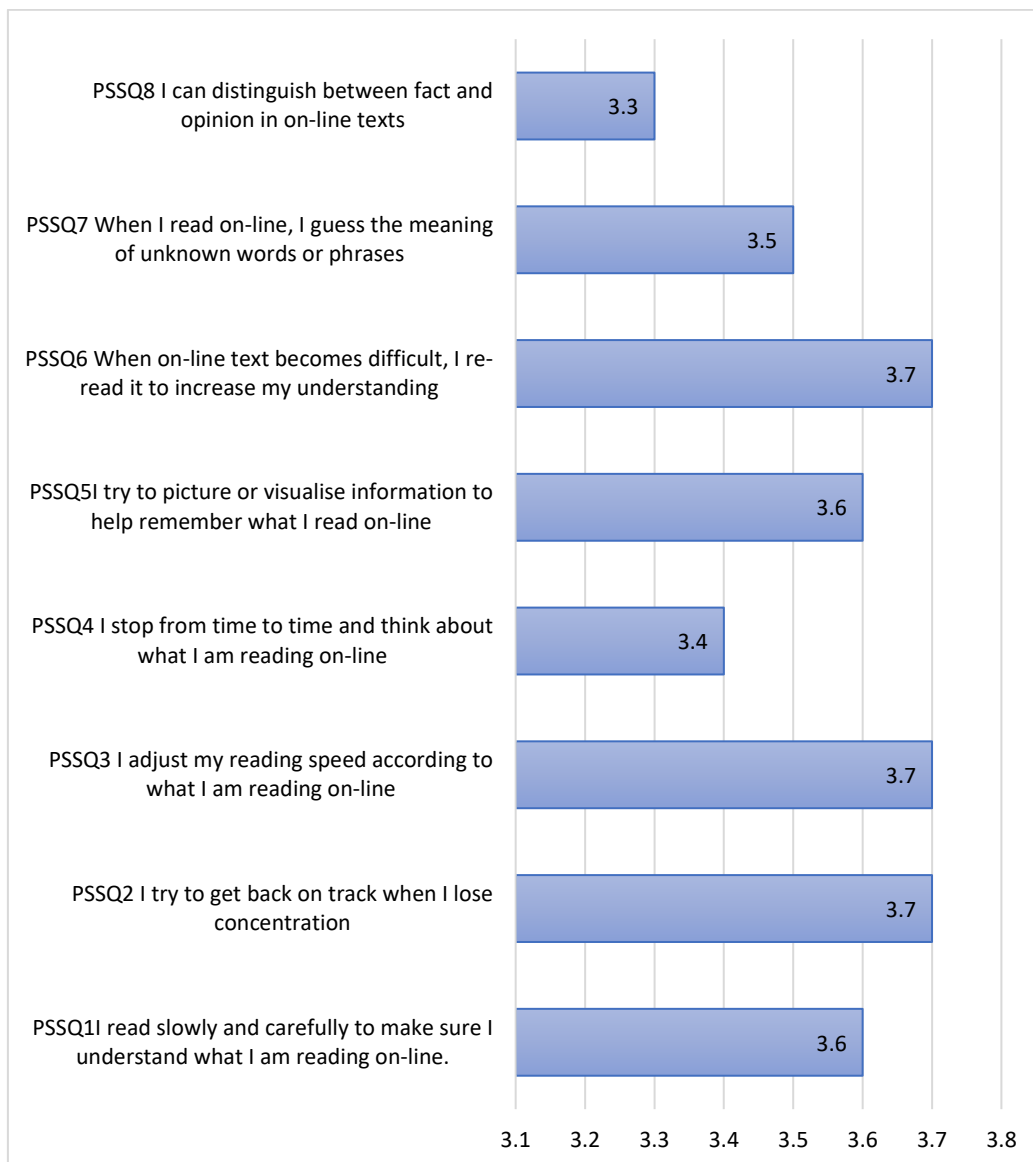
PROBLEM--SOLVING STRATEGIES

Figure 1- Mean for Problem-Solving Reading Strategies

The mean scores for problem-solving reading strategies are presented in figure 11 above. Three items share the same mean of 3.7 and they are "try to get back on track when I lose concentration", "adjust my reading speed according to what I am reading on-line", and "When on-line text becomes difficult, I re-read it to increase my understanding". Nex, two items share a mean of 3.6 and they are "read slowly and carefully to make sure I understand what I am reading on-line" and "try to picture or visualise information to help remember what I read on-line". The lowest mean is 3.3 for the item "can distinguish between fact and opinion in on-line texts".

Findings for Support Reading Strategies
This section presents data to answer research question 4- How do the use of support reading strategies influence online reading?
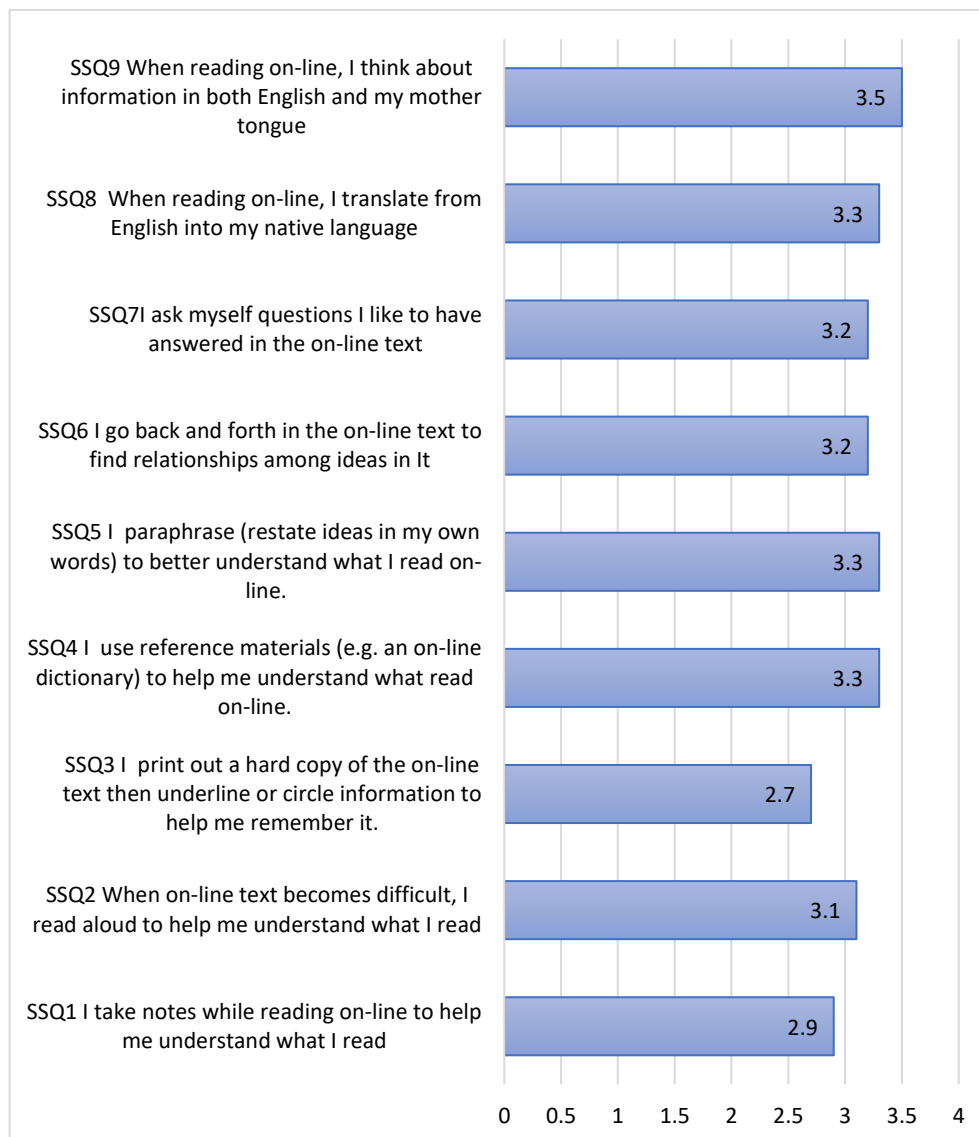
SUPPORT STRATEGIES

Figure 12- Mean for Support Reading Strategies

Figure 12 shows the mean for support reading strategies. The highest mean is 3.5 for the item "When reading on-line, I think about information in both English and my mother tongue". Next, three items have the same mean of 3.3 and they are "use reference materials (e.g. an on-line dictionary) to help me understand what read on-line", "paraphrase (restate ideas in my own words) to better understand what I read on-line", and "When reading on-line, I translate from English into my native language". The lowest mean is "2.7 for "print out a hard copy of the on-line text then underline or circle information to help me remember it".

Findings for Relationship between Reading Difficulties and Online Reading Strategies
This section presents data to answer research question 5- Is there a relationship between reading comprehension difficulties and online reading strategies? To determine if there is a significant association in the mean scores between reading difficulties and online reading strategies, data is anlaysed using SPSS for correlations. Results are presented separately in table 3, 4, and 5 below.

Table 3
Correlation between Reading Difficulties and Global Reading Strategies.

Correlations

		TOTALREADINGDIFF	TOTALGLOBAL
TOTALREADINGDIFF	Pearson Correlation	1	.169*
	Sig. (2–tailed)		.011
	N	229	229
TOTALGLOBAL	Pearson Correlation	.169*	1
	Sig. (2–tailed)	.011	
	N	229	229

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

Table 3 shows there is an association between reading difficulties and global reading strategies. Correlation analysis shows that there is a high significant association between reading difficulties and global reading strategies. (r=.169*) 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 difficulties and global reading strategies.

Table 4
Correlation between Reading Difficulties and Problem-Solving Reading Strategies.

Correlations

		TOTALREADINGDIFF	TOTALPROBLEMSOLVING
TOTALREADINGDIFF	Pearson Correlation	1	.241**
	Sig. (2–tailed)		.000
	N	229	229
TOTALPROBLEMSOLVING	Pearson Correlation	.241**	1
	Sig. (2–tailed)	.000	
	N	229	229

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

Table 4 shows there is an association between reading difficulties and problem solving strategies. Correlation analysis shows that there is a high significant association between reading difficulties and problem solving strategies. (r=.241**) 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 difficulties and problem solving strategies.

Table 5
Correlation between Reading Difficulties and Support Reading Strategies.

Correlations

		TOTALREADINGDIFF	TOTALSUPPORT
TOTALREADINGDIFF	Pearson Correlation	1	.255**
	Sig. (2–tailed)		.000
	N	229	229
TOTALSUPPORT	Pearson Correlation	.255**	1
	Sig. (2–tailed)	.000	
	N	229	229

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

Table 5 shows there is an association between reading difficulties and support reading strategies. Correlation analysis shows that there is a high significant association between reading difficulties and support reading strategies. (r=.225**) 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 difficulties and support reading strategies.

Conclusion

Summary of Findings and Discussions

When it comes to reading difficulties, it is more of a perception of the students that made them feel reading academic texts are difficult. This is because, when they are prepared , they would fell anxious. This finding is in accordance with the study by Atayeva et al (2019) who also stated that the attitude of the readers towards the reading contents determine whether they are positive or negative towards the reading activity.

When it come to the use of reading strategies, this study found interesting findings. For global strategies, learners tend to re-focus their attention to gain better insight of the academic texts. Next, for problem-solving strategies, again, learners, re-focus by re-reding to gain get clearer understanding. Finally, for support reading strategies, learners depended on their translation abilities. They also referred to other reference materials to understand better. Similar findings were also reported in the study by Amer et.al (2010) who also found that the success of reading online is the use of reading strategies such as global, problem-solving and also support strategies. No matter how difficult the reading text is , the use of these strategies gave the readers confidence in making sense of the reading process. Interestingly, his study also revealed that there is also a weak positive relationship between reading difficulties and global reading, problem-solving and also support reading strategies. The study by Huang et al (2009) also found that the use of reading strategies gives readers a positive perception of academic reading. As such, these readers would not find academic reading as difficult.

Pedagogical Implications and Suggestions for Future Research

Given the small scale of the study, hence, it is impossible to make a generalisation. A more detailed analysis and a broader range of research are needed for future research. The implications of the present study depend on efforts of higher institution English lecturers to support students' needs. This can be done by facilitating students' understanding during academic reading activities. Since the students are from diverse educational backgrounds, higher education institutions should consider providing students with the opportunity to participate in a preparation class in order to ensure that they are familiar with the academic atmosphere of the university. On top of that, academic reading norms and strategies need to be introduced at the very beginning of their studies. As for the training modules, the materials should be able to enhance the students' level of motivation and confidence in academic reading gradually. It should begin with simple reading material, and later, progress to complicated material. At the same time, higher learning institutions have to ensure that the students' reading skills are developed through the training modules. Last but certainly not the least, the lecturers have to boost the students' interest in academic reading in order to develop better reading habits.

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