STUDENTS' READING COMPREHENSION TEST ACHIEVEMENT, READING SELF-EFFICACY AND RELATIONSHIPS IN DIFFERENT TIME CONSTRAINTS

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Manuscript received 16 February 2025
Manuscript accepted 1 February 2026
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https://doi.org/10.33736/ils.9079.2026

ABSTRACT

Reading self-efficacy was believed to be a crucial factor for students' reading comprehension ability and achievement. Unfortunately, most research was performed only in a normal test situation with no emphasis on time constraints. This study investigates students' reading comprehension achievement level, reading self-efficacy level, and the relationship between the two aspects within different time constraints. The data were gathered from 119 'first-year students at Universiti Sultan Zainal Abidin through reading comprehension tests and the adapted version of the Self-Efficacy for Reading (SER) questionnaire in three reading comprehension tests with different time constraint namely standard, mild and severe time constraint. The data were analysed and compared through frequency distribution and correlation. Results indicated an increase in students' reading comprehension achievements and a stagnant moderate level of reading self-efficacy. A weak but significant, positive correlation was found in the test conducted under extreme time constraint. Extreme time constraint was concluded to be the most impactful not only towards the students' reading comprehension achievement but also towards the relationship between their reading comprehension achievement and reading self-efficacy.

Keywords: reading comprehension; reading comprehension achievement; reading self-efficacy; time constraints

Introduction

Reading is a language skill that not only represents an individual's ability to comprehend the meaning conveyed by the arrangement of letters but also reflects the ability to determine the meaning of a specific word 'in a given context. Seidi (2018) defined reading comprehension as a process of extracting meaning from interconnected texts. Reading comprehension assessments evaluate a reader's understanding of the author's intentions expressed through words and sentences. The human mind works fast to comprehend text (Carver, 1992; Walczyk et al., 1999).

Research suggests that readers' comprehension can be influenced by their affective factors, particularly self-efficacy (Ghonsooly & Elahi, 2010; Salari & Moinzade, 2015). Self-efficacy refers to an individual's judgment or self-assessment of their ability to successfully perform reading tasks, as defined by Bandura (1977). Unfortunately, most research only evaluated readers' comprehension and its relationship to self-efficacy in a single testing situation (Apriliyani & Usuludin, 2023; Fitri et al., 2019; Hager, 2017; Mohammed, 2022; Nonsawang, 2019; Oranpattanachai, 2023; Salehi & Khalaji, 2014). As a result, it cannot conclusively determine whether the observed influence applies to all testing situations, including those with time constraints. Carver (1992) noted that it is common to evaluate students' reading achievement through standardised tests with time restrictions; however, assessing the impact of affective factors on students' reading achievement under different time constraints is rarely addressed. Such studies would provide deeper insights into how affective factors such as reading self-efficacy, influence students' comprehension in various time constraints.

Despite its fundamental importance, empirical studies on the relationship between reading self-efficacy and reading comprehension achievement remain scarce in recent literature, particularly when accounting for different time constraints. Such a study potentially verifies the impact of reading self-efficacy on students' reading comprehension, regardless of the test situation, and emphasises the importance of reading self-efficacy in enhancing students' reading comprehension, irrespective of the testing context.

This study examines students' levels of reading self-efficacy and their reading comprehension achievements under three different time constraints: basic, mild, and extreme. The hypothesis tested is: There is a significant relationship between students' reading self-efficacy and their reading comprehension performance across these time constraints.

Literature Review

Reading is a sophisticated psycholinguistic process involving more than just the ability to decode or interpret a text. Seidi (2018) referred to this process as comprehension and described the term as the process of unlocking the meaning from the linked texts. Olivares et al. (2016), on the other hand, described comprehension as a complex process that requires the reader to understand ideas in each cycle, connect information from successive cycles, build up macro-ideas and regulate the whole process. Reading comprehension was said to be influenced by various internal and

external factors. Alshammari (2013) claimed that the readers' attributes, such as language proficiency and mental ability which are the reading strategies used, previous knowledge, interest, first language skills, reading motivation and reading habit, would affect their ability to form meaning and links from the text. According to Chen et al. (2016), students' reading comprehension was significantly impacted by motivation, prior knowledge, vocabulary, and lack of interest. Cline et al. (2006) agreed that different individuals may use distinct strategies in reading which finally influence their final understanding of the text. Besides, Salari and Moinzade (2015) and Haghani and Bahmannejad (2018) stated that the individual's affective traits and cognitive process while reading the text are positively correlated to the outcome of the reading comprehension and thus supported the idea that the affective factors can influence reading comprehension problems.

Cognitive Load Theory is a comprehension theory which explains the reading comprehension process from an instructional standpoint. The theory was introduced by Sweller (1988) and acts as the initial outline for understanding how human cognition processes new information through the amount of cognitive load received and managed in working memory during learning or problem-solving. The main idea of this theory is that the human brain has a limited working memory which processes the new information and the schemas for information are stored in the long-term memory. It also introduces three types of cognitive load, which are intrinsic load, extraneous load, and germane load. Intrinsic cognitive load is the natural complexity of the learned material based on the reader's prior knowledge, while extraneous cognitive load refers to the unnecessary mental effort imposed by information's presentation, such as through poor instructional design. Germane cognitive load is the prolific mental effort that led to schema construction and automation, which leads to real learning and continuous understanding. Good comprehension involves managing the intrinsic load and minimising the extraneous load while fostering the germane load, which helps in schema construction.

The Cognitive Load Theory is known for its profound implications on learning outcomes and instructional design, which guide language teachers in aligning their teaching methods to the learners' cognitive capacity to optimise learning outcomes. Sweller (2010) believed effective instruction should manage intrinsic load while reducing the extraneous load to promote the germane load. Sweller et al. (2019) believed that while reading comprehension involves cognitive load, complex and time-limited tasks would lead to more cognitive loads. This theoretical perspective is particularly relevant to this study as it examined students' comprehension process within three different time constraints and highlighted the context which best promotes their reading comprehension achievement.

Time constraints are another focus of the study, and the term is represented in the study by test durations and were mentioned in various expressions depending on the situation and duration of the test. Haniff (2012) used the term untimed test to describe the test which allows any amount of additional time the students need or the time that is given beyond the predetermined time allocated for a standardised test. Testing and evaluation are essential in measuring the success of the education and training process. Oakley (2011) believed testing was important for reading comprehension, as it is the outcome which illustrates the readers' ability to link their

background knowledge with the reading text. Standardised reading achievement tests are usually carried out under the same criteria such as test duration and scoring scheme which evaluates the participants' reading achievement without any possible bias.

Normally, many believed that unlimited time constraint affected the reading comprehension task the most compared to limited time constraint. Walczyk's (1995) study recorded a significantly higher score in the no-time-constraint condition, but a later study in 1999 revealed a better performance under mild time constraint. Mild time constraint was thus believed to promote readers' mindfulness which involved the application of more effort and motivation in the reading assessment. Gilbert et al. (1993) successfully show that extreme time limitation hampered the readers' critical thinking. Additionally, Breznitz et al. (2013) claimed that the correct application of time constraints may facilitate the readers' additional upgraded text-processing subroutines which enhances their reading process and achievement. Haniff (2012), however, discovered no significant correlation between students' reading test performance under timed and untimed conditions and thus suggested that time constraints have a minimal impact on students' reading performance. This was thought to be due to readers' mindfulness which Salomon and Globerson (1987) defined as "the volitional, metacognitively guided employment of non-automatic, usually effort-demanding processes" (p. 625). Mindfulness involves readers' motivational, attitudinal and cognitive elements and the training of reading with time constraints was believed to specifically modify the readers' cognition, motor and perceptual of words which also refers to the word decoding routines.

Another focus of this study is reading self-efficacy, which Bandura (1977) defined as individuals' judgments or self-assessments of a person's ability to perform a task successfully. Carroll and Fox (2017), considered self-efficacy as the individuals' belief in their capability in taking action to achieve a particular goal. Maddux (2012) however, came out with the simplest form to describe self-efficacy which is what I believed I can do and not what I believed I will do. Self-efficacy in short was perceived as the individual's self-belief of their capabilities in carrying out actions to achieve a certain goal successfully.

Self-efficacy was believed to have positively contributed to students' academic performance (Yogurtcu, 2013) and overall success (Bråten et al., 2013). Besides, self-efficacy increases students' task participation, hard work, perseverance and reduced hostile emotional reactions to difficulties in a task (Bräten et al., 2013). Carroll and Fox (2017) agreed that self-efficacy impacted the readers' comprehension process which involves the identification of letters and meanings. Furthermore, Lee and Jonson-Reid (2016) found that reading self-efficacy had a positive and significant impact on young children's reading achievement which was less related to gender differences but closely correlated with perceived reading achievement. In the present study, a more precised definition of self-efficacy was adopted, that is, reading self-efficacy.

The social cognitive theory (Bandura, 1977) conceptualises self-efficacy under the personal factor in reciprocal determinism. The theory emphasises the interaction between behaviour, environment and reciprocal determinism, specifically personal factors, behaviour and environment in learning. Self-efficacy, according to Bandura

(1977), plays a crucial role in determining how individuals think, feel, and behave. In the context of reading, a student's reading self-efficacy influences their approach to reading assignments, the level of effort they put forth, and their resilience in overcoming challenges. This theory is relevant to the study as, while illustrating how a person's reading self-efficacy influences their action in comprehension in tests with three time constraints.

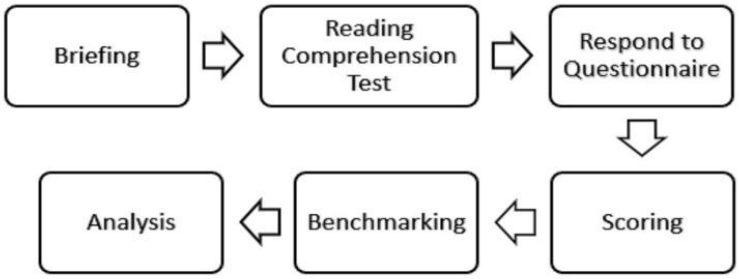
Methodology

The study on reading comprehension and reading self-efficacy under three-time constraint conditions involved 119 first-year students in UniSZA (39 males and 80 females). Using purposive random sampling techniques, 119 students were selected from the population of 2,100 students. The sample selection was done with the help from the university's student affair department and faculties. The sample size was determined according to the sample size table developed by Bartlett et al (2001).

The study examined reading comprehension using reading comprehension tests and reading self-efficacy using a questionnaire. Three sets of reading comprehension tests, adapted from the Malaysian University English Test (MUET) module were used in the study. Each test consisted of a passage of 700 to 800 words with eight multiple-choice questions. The passages were tested for readability through the Flesch-Kincaid Grade Level Readability Test, Dale-Chall Readability Formula and McAlpine EFLAW(TM) Readability Score. The readability test result indicated that the passages are appropriate for the study as they are easy to understand, suitable for the participants' age and require only average reading skills. The reading passages were reviewed for content validity and suitability by the English teachers at UniSZA. The reading comprehension tests were conducted over three durations: 30 minutes for basic time constraint, 20 minutes for mild time constraint, and 13 minutes for extreme time constraint. The implementation of three time constraints is based on a study conducted by Walczyk et al. (1999) to explore how these varying time constraints affect students' reading self-efficacy and reading comprehension achievement. Additionally, these time constraints reflect real-life scenarios that students encounter while reading. The second instrument for this study is the adapted version of the Self-Efficacy for Reading (SER) questionnaire developed by Prat-Sala and Redford (2010). This questionnaire comprised 12 items with Cronbach's alpha coefficient of .794 for the current sample, indicating an acceptable level of internal consistency.

Figure 1 illustrates the whole research process of the present study. The data collection process for this study took place over three separate sessions. Each session began with a brief explanation by the researcher, followed by the test, administered within the designated test duration. Once the test was completed, students were required to complete the SER questionnaire. The process was conducted through UniSZA's online learning platform, E-KeLip, to ensure easy access and effective data collection.

Figure 1
The Research Process of the Study



The data analysis process started after the tests' answers and the questionnaire's responses were scored and benchmarked. The Statistical Package for the Social Sciences (SPSS) software was used to calculate frequencies to identify the students' reading comprehension achievement level and their reading self-efficacy level for each test. Meanwhile, correlation analyses were carried to determine the potential relationship between the students' reading comprehension achievement and their reading self-efficacy for each test.

Results

Reading Comprehension Achievement

Table 1 presents the students' level of comprehension test achievement in the first test which was carried out with a basic time constraint. t. The result indicated that most students achieved average achievement level in the first reading comprehension test (53.85%) followed by good (25.2%), poor (19.3%) and excellent (1.7%) achievement level.

Table 1
Students' Level of Comprehension Test Achievement in Basic Time Constraint in First Reading Test

	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	23	19.3	19.3	19.3
Average	64	53.8	53.8	73.1
Good	30	25.2	25.2	98.3
Excellent	2	1.7	1.7	100.0
Total	119	100.0	100.0	

Table 2 shows that in the second reading comprehension test, almost half of the students (47.1%) achieved average level of reading comprehension achievement level followed by poor (13.4%), good (13.4%) and excellent (1.7%) achievement levels.

Table 2
Students' Level of Comprehension Test Achievement in Mild Time Constraint in Second Reading Test

	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	45	37.8	37.8	37.8
Average	56	47.1	47.1	84.0
Good	16	13.4	13.4	98.3
Excellent	2	1.7	1.7	100.0
Total	119	100.0	100.0	

Table 3 shows that the third test recorded the best result with almost half (43.7%) of the students attaining good achievement level followed by average (35.3%). Interestingly, 16.0% of the students achieved excellent achievement level while only 5.0% of them achieved poor achievement level.

Table 3
Students' Level of Comprehension Test Achievement in Extreme Time Constraint in Third Reading Test

	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	6	5.0	5.0	5.0
Average	42	35.3	35.3	40.3
Good	52	43.7	43.7	84.0
Excellent	19	16.0	16.0	100.0
Total	119	100.0	100.0	

The results of the three reading comprehension assessments indicated that most students demonstrated an average level of achievement when tested under basic and mild time constraints in the first and second reading tests. However, they performed well and achieved a good level of reading comprehension in the third test that was imposed by extreme time constraint.

Reading Self-Efficacy

Table 4 illustrates the result of students' reading self-efficacy level in the first test, conducted within a basic time constraint. The result indicated that more than half (63.0%) of the students experienced moderate level of reading self-efficacy followed by high (36.1%) and low (0.8%) reading self-efficacy levels during the first test. None experienced a very low level.

Table 4
Students' Level of Reading Self-Efficacy in Basic Time Constraint in First Reading Test

	Frequency	Percent	Valid Percent	Cumulative Percent
Very low	-	-	-	0
Low	1	0.8	0.8	0.8
Moderate	75	63.0	63.0	63.9
High	43	36.1	36.1	100.0
Total	119	100.0	100.0	

The result in Table 5 displays the reading self-efficacy level in the second test with 64.7% of the students experiencing moderate reading self-efficacy level while 30.3% of them experienced high reading self-efficacy level. Meanwhile, 5% of the students experienced a low reading self-efficacy level, while none experienced a very low level. The result indicated that the students' reading self-efficacy remained the same as the previous test.

Table 5

Students' Level of Reading Self-Efficacy in Mild Time Constraint during Second Reading Test

	Frequency	Percent	Valid Percent	Cumulative Percent
Very low	-	-	-	0
Low	6	5.0	5.0	5.0
Moderate	77	64.7	64.7	69.7
High	36	30.3	30.3	100.0
Total	119	100.0	100.0	

Table 6 shows the result for the students' reading self-efficacy level in the test with extreme time constraint. Most students (58.8%) experienced a moderate reading self-efficacy level, while 36.1% experienced a high level. Meanwhile, 5% of the students experienced a low reading self-efficacy level, while none experienced a very low level.

Table 6

Students' Level of Reading Self-Efficacy in Extreme Time Constraint in Third Reading Test

	Frequency	Percent	Valid Percent	Cumulative Percent
Very low	-	-	-	0
Low	6	5.0	5.0	5.0
Moderate	70	58.8	58.8	63.9
High	43	36.1	36.1	100.0
Total	119	100.0	100.0	

The data revealed that the students' reading self-efficacy levels fluctuated in numbers across the three tests but remained within the moderate level followed by high and low reading self-efficacy levels. The result of students' reading self-efficacy levels from the three reading comprehension tests indicated that the students' reading self-efficacy levels did not significantly change throughout the three tests.

Correlation of Reading Comprehension Test Achievement and Reading Self-Efficacy

Table 7 shows the results of the correlation analysis conducted between reading comprehension test achievement and students' reading self-efficacy in the first test which was a test with a basic time constraint. The test revealed a small positive correlation r(117)=0.162, p=0.078), 95% CI [-0.019, 0.33]. Based on Cohen's (1988) guidelines, confidence intervals between -0.019 to 0.33 indicated the existence of a

positive but weak relationship between students' reading self-efficacy and reading comprehension test achievement in reading test with a basic time constraint and thus the H_1 is accepted.

Table 7

The Correlation Result Between Students' Reading Self-Efficacy and Reading Comprehension Test Achievement in Reading Comprehension Test with Basic Time Constraint in First Reading Test

		Reading Self-efficacy Score	Reading Comprehension Test Score
Reading Self-efficacy Score	Pearson Correlation	1	.162
	Sig. (2-tailed)		.078
	N	119	119
Reading Comprehension Test Score	Pearson Correlation	.162	1
	Sig. (2-tailed)	.078	
	N	119	119
95% Confidence Interval for Mean		[-0.019, 0.33]	

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

Table 8 displays the correlation result between students' reading self-efficacy and reading comprehension test achievement in the second test which was conducted with a mild time constraint. The analysis revealed a very small but positive correlation r(117) = 0.088, p=0.342), 95% CI[-0.093, 0.26]. According to Cohen's (1988) guidelines, confidence intervals between -0.093 to 0.26 indicated the existence of a positive but very weak relationship between students' reading self-efficacy and reading comprehension test achievement in reading test with a basic time constraint and thus the H_1 is accepted.

Table 8

The Correlation Result Between Students' Reading Self-Efficacy and Reading Comprehension Test Achievement in Reading Comprehension Test with Mild Time Constraint in Second Reading Test

		Reading Self-efficacy Score	Reading Comprehension Test Score
Reading Self-efficacy Score	Pearson Correlation	1	0.088
	Sig. (2-tailed)		.342
	N	119	119
Reading Comprehension Test Score	Pearson Correlation	0.088	1
	Sig. (2-tailed)	.342	
	N	119	119
95% Confidence Interval for Mean		[-0.093, 0.26]	

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

Table 9 shows the correlation result between students' reading self-efficacy and reading comprehension test achievement which was held with extreme time

constraint in the third reading test. The analysis revealed a small positive correlation r(117) = 0.238, p=0.009, 95% CI[0.061, 0.4]. According to Cohen's (1988) guidelines, confidence intervals between 0.061 to 0.4 indicated the existence of a positive but weak relationship between students' reading self-efficacy and reading comprehension test achievement in reading test with a basic time constraint and thus the H_1 is accepted.

Table 9

The Correlation Result Between Students' Reading Self-Efficacy and Reading Comprehension Test Achievement in Reading Comprehension Test with Extreme Time Constraint in Third Reading Test

		Reading Self-efficacy Score	Reading Comprehension Test Score
Reading Self-efficacy Score	Pearson Correlation	1	.238**
	Sig. (2-tailed)		.009
	N	119	119
Reading Comprehension Test Score	Pearson Correlation	.238**	1
	Sig. (2-tailed)	.009	
	N	119	119
95% Confidence Interval for Mean		[0.061, 0.4]	

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

Discussion

The study revealed that students' reading comprehension achievement levels were primarily at an average level during tests with basic and mild time constraints, while they performed better on tests with extreme time constraint. The findings generally illustrate the impact of time constraints on students' reading self-efficacy and reading comprehension achievement levels and their relationships, while considering extreme time constraint as providing the most impact on students' reading comprehension achievement. This finding contradicts the work of Walczyk (1995) and Mai (2020), which suggested that readers excelled in reading assessments without any time constraints. It challenges the conclusions of Walczyk et al. (1999), who argued that mild time constraints are the most appropriate testing conditions. The findings contest the notion that time constraints hinder students' reading achievements, thereby challenging the perspectives of Alshammari (2013), Meyer et al. (1999), Lesaux et al. (2006), and Edward et al. (2021), who argued that the pressure of time limitations during reading negatively impacts reading comprehension. The findings indicated that time constraints are significant factors influencing the outcomes of reading ability (Alshammari, 2013; Ghonsooly & Elahi, 2010; Naseri & Zaferanieh, 2012). The strategies adaptation (Li & Wang, 2010; Liu & Wei, 2016), emotional regulation (Osman et al., 2016), and prior knowledge (Mai, 2020) are believed to impact reading comprehension results in time-pressured reading.

Apart from the reading comprehension achievement level, this study also revealed that the students' level of reading self-efficacy is at moderate level

throughout the three reading tests. This finding is in line with Safian and Jiar (2022) which discovered the moderate reading self-efficacy level of pre-university students. Malaysian students lack confidence in their reading abilities which affects their overall comprehension performance. Furthermore, the analysis of the relationships between student's reading self-efficacy and their reading comprehension achievement revealed a small, positive correlation for the test with basic and extreme time constraints but discovered a very small but positive correlation for the test with mild time constraint. This indicated a weak but positive influence of students' reading self-efficacy towards their reading comprehension achievement which suggested that the students' reading comprehension achievement increases as their reading self-efficacy increases.

This study discovered different strengths of the relationship between reading self-efficacy and reading comprehension achievement within three different time constraints but the current literature supporting the finding is scarce as most studies investigate the relationship within a single time constraint. The finding, however, supported past studies which also identified a positive relationship between reading self-efficacy and reading comprehension achievement. Apriliyani and Usuludin (2023) for instance, discovered a weak positive correlation, whereas Fitri et al. (2019) identified a strong positive correlation between reading self-efficacy and reading comprehension achievement among EFL senior high school students in Indonesia. Similarly, this study is also consistent with previous research involving university students in Saudi Arabia (Mohammed, 2022; Shehzad et al., 2019) and high school and college students in Thailand who learned English as a foreign language (Nonsawang, 2019; Oranpattanachai, 2023).

Regardless of the strength of the relationship, the finding explicates the influence of students' reading self-efficacy towards their reading comprehension achievement. Reading self-efficacy is thus one of the factors influencing students' reading comprehension (Hager, 2017; Norudin et al. 2024) but the strength may vary due to various possible reasons such as prior knowledge (Bandura, 1977), metacognitive skills (Bandura, 1977; Meldawati & Hamid, 2023), self-regulated learning (Zimmerman, 2000a), psychological states (Zeng & Rahmat, 2022) and others. Gilbert et al. (1993) believed that readers are incapable of thinking critically about the text information provided under severe time pressure, which highlights the negative effect of time constraints. This study however, illustrated a contradictory outcome and thus refuted the idea by highlighting the positive impact of time constraints on reading self-efficacy and reading comprehension achievement. The study hence disagreed with Haniff (2012), who did not regard time constraints as a contributory factor to students' reading achievement. The finding supported Breznitz et al. (2013), who viewed the correct application of time constraints as enhancing the reading process and achievement.

Theoretically, the result presents a contradicting view of the cognitive load theory by Sweller (2011). The theory suggests that time pressure influences the comprehension process by intensifying the intrinsic load due to the limited time to process the text based on their prior knowledge while upsurging their extraneous load due to the improper management of time to process the text. The finding, however, revealed the opposite scenario where the students scored better on the test with

extreme time constraint which implied that time pressure does not negatively impact their comprehension load. The finding provides new insight into the comprehension process under time pressure, as it has been claimed to have affected one's deep-thinking process and metacognitive regulation (Paas & van Merriënboer, 1994), as well as decision-making speed-accuracy decisions (Hancock & Szalma, 2008) which eventually weakened the performance of the task.

Besides, the finding supported Bandura (1977)'s social cognitive theory, which believed that learners' actual performance is strongly influenced by their beliefs and this was illustrated through the positive correlation between students' reading self-efficacy and reading comprehension achievement. The finding, however, negates the idea of the theory which believed that high self-efficacy led to more resilience to time pressure. The finding provided a different view where, in extreme time constraint, even a moderate level of self-efficacy can resist time pressure without distressing the comprehension process. This finding also supported the possibility that within time-restricted reading, other factors such as sub-goal setting (Zimmerman, 2000b), self-regulated learning strategies and background knowledge (Mai, 2020) assist in resisting the impact of time constraint towards the comprehension process regardless of self-efficacy level.

Conclusion

The present study aims to identify the students' levels of reading self-efficacy and reading comprehension achievement under three time constraints: basic, mild, and extreme. Additionally, it seeks to verify and compare the relationship between students' reading self-efficacy and their reading comprehension achievement within the three different time constraints. The findings revealed that the students generally demonstrated a moderate level of reading self-efficacy across the three tests. Furthermore, the students showed average reading comprehension under basic and mild time constraints, while achieved good comprehension under extreme time constraints. Besides, the study found a weak, positive, but insignificant relationship between the two factors in the test with basic time constraint, and a very weak, positive, and insignificant relationship in the test with mild time constraint. Interestingly, the study identified a weak, positive, and significant relationship in the test conducted under extreme time constraint. This suggests that students' reading abilities are maximised when faced with stringent time constraints, challenging earlier research supporting no time constraint (Walczyk, 1995) and mild time constraint (Walczyk et al., 1999).

Through this discovery, language teachers and instructors are encouraged to implement reading activities with appropriate time restrictions to enhance students' reading comprehension and self-efficacy (Breznitz et al., 2013). The scholar believed that the correct application of time constraints may facilitate the readers' additional upgraded text-processing subroutines which enhances their reading process and achievement. The study also reveals how varying time constraints can lead to differing comprehension results, indicating that assessments conducted under a single test condition may not accurately reflect reader's true reading ability. Therefore, language teachers and instructors should consider incorporating time-restricted reading tests

to better evaluate students' reading ability and identify those who may have reading difficulties.

The findings of the study provide valuable additional insight into the literature on students' reading self-efficacy and reading comprehension, but it is not without limitations. This study a sample of first-year students from a specific population at Universiti Sultan Zainal Abidin, which limits the scope of the study. Future researchers are urged to explore the research model in different universities to enhance the generalisability of the findings. Future studies should include students from different years of study to facilitate broader generalisation across various age groups to verify the findings. This study placed no specific attention on gender pertaining to reading self-efficacy and reading comprehension achievement. Future studies should have a more balanced subject from both genders to have a more generalised finding which corresponds to both genders. This study shows that time constraint is one of the crucial elements to integrate in language learning, not only it positively affects the students' reading comprehension but also their affective factors such as reading self-efficacy. In general, time restrictions may have more unexplored positive effects on readers' comprehension and affective responses, potentially improving reading comprehension outcomes.

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