

The Correlation Between Reading Ability And Self-Regulated Reading in Digital Text

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Abstract

The research aims to investigate two main questions: first, whether there exists a correlation between the extensive use of self-regulated reading and the reading proficiency of aspiring English teachers, particularly in digital text comprehension; second, which specific components of self-regulated reading are predominantly employed by these preservice English teachers. The research adopts a quantitative approach, employing a correlational study design, with 37 sixth-semester students in English language education as participants. Data collection involves using a questionnaire and gathering participants' reading scores. The analysis is conducted using correlation and descriptive statistics in Microsoft Excel. Results indicate a weak negative correlation of -0.02116, suggesting a discrepancy between student's reading abilities and their reported self-regulated reading habits in online texts. In conclusion, there is a minimal negative association between students' reading proficiency and online reading proficiency. Future research should delve deeper into this relationship, incorporating specific assessments of online reading proficiency. Furthermore, researchers can also consider additional variables, such as students' level of technological skills or preferences for digital learning, to enrich the understanding of the dynamics of the interaction between reading ability and self-regulated reading in the context of online text.

Keywords: Self-regulated reading; Digital text; English Preservice teachers.

Reading is an essential activity; hence, reading competency is significantly affected by the strategies employed during the reading process. Recent years have seen several studies in educational psychology and language education examining the impact of reading approaches on text comprehension, alongside significant investigations into instructing students in effective learning strategies.

Research in cognitive science indicates that the emphasis in second language acquisition (SLA) and instruction has transitioned from pedagogical methods to individual differences (Oxford, 2017). Consequently, the investigation of language acquisition mechanisms has become a significant area of research in second language studies. (Ping, 2012). Song et al. (2020) assert that a substantial correlation exists

between students' reading proficiency and the utilization of strategies. Language readers might acquire advanced cognitive methods to enhance their reading skills. It is recommended that educators employ strategies to support English as Second Language or English as Foreign Language readers in engaging and synchronizing more advance comprehension processes during second language reading.

Kung (2017) examined the impact of employing reading methods in Taiwanese English as Foreign Language (EFL) classrooms. This study indicates that promoting effective reading strategy will markedly impact pupils' reading comprehension and independence. It is claimed that second language educators enhance students' comprehension of reading strategies by promoting the utilization of appropriate strategies for reading. Additionally, language instructors are urged to adapt conventional EFL teaching methodologies to enable pupils to develop independent and suitable reading habits.

Reading employs diverse strategies, including cognitive and metacognitive approaches. Self-regulated reading emerges when readers employ metacognitive skills, including progress monitoring, planning, and reflection, to manage their reading process (Hu & Gao, 2017). Students can be instructed to improve their metacognitive strategies in reading comprehension, including identifying the primary goal of reading and the importance of developing reading abilities. As a result, students exhibit greater control over their reading activities by choosing comprehension strategies that strengthen their understanding of the material (Teng, 2019). Students demonstrate diverse learning habits; some may demonstrate enormous motivation and succeed academically, while others may encounter difficulties. This circumstance can be affected by learners' self-regulation (Zimmerman, 2002).

Self-regulated learning is characterized as an approach that enables students to govern their behaviors, cognitive processes,

and emotions during the learning experience (Zimmerman, 2002). The subject of Self-Regulated Learning in Reading has garnered significant attention. Mardani and Afghary (2017) discovered that the use of the Self-Regulated Learning Approach Development (SRSD) approach significantly enhanced reading comprehension among high school student. Additionally, Hemmati et al. (2018) performed an experimental study to evaluate the influence of Self-Regulated Learning on students' reading motivation. The study revealed that students in the experimental group, who were guided to utilize Moylan and Zimmerman's Self-Regulated Learning phase, exhibited a much greater enhancement in their motivation to read English texts compared to students in the control group, who received conventional reading instruction. Amini et al. (2020) identified a correlation between metacognitive reading strategies (global reading, problem-solving, and support techniques) and Self-Regulated Learning. This study's findings indicate that Self-Regulated Learning exhibited an average reading comprehension coefficient, signifying that individuals with elevated Self-Regulated Learning intervention scores demonstrated superior reading comprehension levels. A study by Thiede and de Bruin (2018) indicates that students who engage in preparatory reading activities demonstrate superior understanding compared to their peers, highlighting the significant impact of Self-Regulated Learning in enhancing reading comprehension. According to advancements in Self-Regulated Learning research, the application of this concept in reading activities is termed Self-Regulated Reading (Kung, 2017). Self-regulated reading involves using metacognitive skills, such as preparing, tracking progress, and reflecting, to manage the reading process (Hu & Gao, 2017). Further Sashikala and Chye (2023) define self-regulated readers actively engage in metacognitive, motivational, and behavioral activities while reading. In other words, the readers aim to comprehend the text and guide

their development towards this goal.

Prior studies have examined the impact of self-regulated reading on students' reading proficiency. Ho (2016) explored the relationship between self-regulated learning (SRL) and Hong Kong students' reading performance on the Program for International Assessment for Students (PISA). The results showed a positive relationship between SRL and reading performance; motivation was the most important component of SRL in explaining the strong performance of Hong Kong students. Furthermore, Harding et al. (2019) carried out research with the same focus. There is a slight difference between Ho's (2016) research and Harding's research, Harding focuses on the relationship between SRL and elementary school students' reading achievement. This research indicates that students who regulate their learning can modify and monitor their behavior using metacognition, motivation, self-awareness, and self-efficacy to achieve the desired learning outcomes. This study demonstrates that self-regulated learning behavior correlates with academic performance in mathematics and reading comprehension among students in Grades 5 through 8, with the most significant correlation observed in Grade 8.

Additionally, Qi (2021) completed a study to investigate the Self-Regulated Learning (SRL) of 15-year-old students in Shanghai, assessed via metacognitive processes (metacognition in comprehension and retention, metacognition in summarization, and control strategies), cognitive strategies (elaboration and memorization), and motivational beliefs (pleasure gained by reading). The results of this research are that elaboration strategies, metacognition in understanding and remembering, metacognition in summarizing, control strategies, and enjoyment in reading contribute to students' reading literacy. In contrast, memorization strategies have a significant negative impact on reading literacy.

Unfortunately, the previous research

above has not focused on the relationship between self-regulated reading and the reading abilities of preservice English teachers, especially in reading digital text. According to Cho and Afflerbach (2017) reading digital text involves navigating many webs, linkages, and nodes. Furthermore, texts in the digital world are presented in a variety of formats (paragraphs, graphs, images and charts) (Seok & DaCosta, 2016). As a result, strategies for reading printed text differ from those for reading online. The traditional reading strategies utilized for reading printed text (such as inferring, scanning, and skimming) are insufficient for reading digital content. Reading digital or online writing necessitates the capacity to surf the internet, locate, analyze, synthesize the text, communicate the results of reading, and navigate hyperlinks offered by the Internet (Leu et al., 2012; Brun-mercer, 2019).

Seeing the weaknesses of previous research, this research tries to make a scientific contribution to reading digital text and the use of self-regulated reading strategies from the perspective teachers. Therefore, this research aims to analyze whether there is a relationship between the high use of self-regulated reading strategies in digital text and the reading abilities of preservice English teachers. This research's results will significantly contribute to the scientific development of preservice English teachers' reading ability and the use of self-regulated reading in digital text.

Method

This study aims to investigate the relationship between the use of self-regulated reading strategies and the reading proficiency of preservice English teachers. With this objective in mind, the research method employed is quantitative research with a correlational study design. Correlational research produces indices indicating the direction and strength of the relationship between variables, considering the entire range of those variables (Ary et al., 2010). Therefore, the current study relies on

quantitative data analysis and data sources.

The subjects of this study are preservice English teachers who are students in the English Language Education Program at one of the private universities in Jember. The students involved in this research are all sixth-semester students. The selection of students this semester is based on their enrollment in the Reading course, which has been completed by the students. The total number of students expected to participate is approximately 37 students.

There are two instruments in this research, namely questionnaires and reading scores. The questionnaire was developed based on self-report instruments of self-regulated reading, modified from various previous studies, including the questionnaire instrument on online reading strategies constructed Li (2020) and the MSLQ self-report instrument used by Pintrich et al. (1993). There are 18 items used in this study, consisting of 6 questions to assess metacognitive strategies in reading and 12 questions to assess cognitive strategies in online reading. The second instrument used was the students' reading scores. These scores were obtained from the assessment outcomes in the student's most recent reading course, acquired from the students' reading class.

Two main data sets, comprising self-report and reading scores of preservice teachers, were analyzed using correlation to determine the relationship between these two variables. This analysis was conducted using the Ms. Excel application within the Data Analysis feature.

Result and Discussion

This research aims to investigate the relationship between reading proficiency and self-regulated reading in digital texts. To address this question, the researcher employs two primary datasets: students' reading scores and self-regulated reading reports obtained through an online survey. Data analysis to determine the relationship between reading proficiency and self-regulated reading begins

with descriptive statistical analysis (Table 1), followed by correlation analysis (Table 2) and regression analysis (Table 3). Each analysis will be elucidated as follows:

Results of Descriptive Statistical Analysis

Based on the results of the analysis in Table 1, there are two columns, namely Reading Value and Strategy Value, where the average value for reading value is 83.89 while the strategy value is 3.82 with a standard deviation of 4.36 (reading value) and 0.43 (strategy value). This means that the data shows sufficient representativeness of the sample, namely from a total sample size of 37 students.

Table 1. Result Of Descriptive Statistical Analysis

Reading Score		Strategy Score	
Mean	83,89189189	Mean	3,828829
Standard Error	0,71741924	Standard Error	0,072313
Median	84	Median	3,777778
Mode	83	Mode	3,5
Standard Deviation	4,363890872	Standard Deviation	0,439864
Sample Variance	19,04354354	Sample Variance	0,193481
Kurtosis	-0,363960499	Kurtosis	0,728987
Skewness	0,022046787	Skewness	-0,01988
Range	20	Range	2,111111
Minimum	74	Minimum	2,611111
Maximum	94	Maximum	4,722222
Sum	3104	Sum	141,6667
Count	37	Count	37

Results of Correlation Analysis

Correlation is an analysis used to determine the relationship between one variable and another variable. This means that when a variable occurs, other variables can influence it. Based on the results of the correlation analysis carried out through Ms. Excel, it was found that the results of calculating the correlation between the reading value and the strategy value were -0.02116 (Table 2).

It can be concluded that there is a relationship between reading scores and reports of self-regulated reading strategies,

where the relationship is low, namely more than 0.20. Furthermore, because there is a negative sign in the correlation results, this can mean that the correlation between the two variables runs in the opposite direction. In this study, it can be concluded that if the reading score is high, then the report of self-regulated reading is low, and vice versa.

Table 2. Result of Correlation Analysis

	Reading Score	Strategy Score
Reading Score	1	
Strategy Score	-0,021163609	1

Result of Regression Analysis

In Table 3, it is known that the results of regression statistics, Multiple R, are 0.21, which indicates that the relationship between the two variables (reading ability and self-regulated reading report) is not very strong. Meanwhile, the R Square (R²) result is 0.000, meaning that the variation in reading scores cannot be explained by the Self-regulated reading report because it can only be explained by 0%. The diversity of reading scores may be influenced by other factors outside of self-regulated reading factors.

Table 3. Result of Regression Analysis

Summary Output		Regression Statistics						
Multiple R		0,021163609						
R Square		0,000447898						
Adjusted R Square		-0,028110733						
Standard Error		4,424801862						
Observations		37						
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	0,307064574	0,307065	0,015683	0,901055			
Residual	35	685,260503	19,57887					
Total	36	685,5675676						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	84,69580838	6,4604176	13,10996	4,58E-15	71,58046	97,81115	71,58046	97,81115
X Variable 1	-0,209964072	1,676578751	-0,12523	0,901055	-3,6136	3,193672	-3,6136	3,193672

Furthermore, in Table 3, the ANOVA summary section shows that the Degree of Freedom (df) is 35. Then, the SS Regression result is 0.3070, the SS Residual is 685,260, and the SS Total column is 685,567. This means that the variation in reading scores is caused in part by the independent variables (self-regulated reading report), which is 0.3070 (regression). The remaining 685,260 is caused by other variables that also influence reading scores but are not included in the model (residual).

Based on the results of descriptive statistical analysis, correlation, and regression analysis, it can be concluded that there is a low negative relationship between the reading ability of preservice English teacher students and self-regulated reading reports in online texts. Furthermore, the relationship between these two variables is opposite. This result contradicts the opinion of Song et al. (2020) who stated that they believe a strong relationship exists between students' reading proficiency and strategy use; ESL/EFL readers can develop the skills to use higher-order thinking strategies to improve their reading proficiency. Moreover, the findings in this study are also inversely proportional to the results of research conducted by Sashikala and Chye (2023), proving that self-regulated reading significantly impacts students' reading performance. The difference between this study's results and previous research could be due to differences in the features of the factors studied. This result is demonstrated by the two primary variables employed in the correlation analysis. Variable 1 represents the reading score, while Variable 2 is the self-regulated reading report. According to this study's data collection procedures, participants' reading scores were gathered during their reading course. However, it is still being determined whether the reading materials or activities used in the course were directly tied to online reading activities. In contrast, the self-regulated reading questionnaire focused on methods and behaviors associated with online reading activities. This difference in

the context of the two variables—the broad nature of the reading scores against the online-specific focus of the self-regulated reading report—could explain the disparity in results between this study and earlier research. As mentioned by Chou (2013) and Leu et al. (2012) that reading online requires different cognitive and metacognitive strategies from reading printed texts. According to Cho (2014) The cognitive processes used when reading printed texts are not sufficiently used when reading digital texts. Reading digital texts requires cognitive flexibility, where readers must be able to determine what to read, where to continue to look for sources, when to stop reading and look for reading sources, and the ability to synthesize reading from various sources. Furthermore, this cognitive flexibility process was not found in reading printed text.

Although high-achieving students who effectively self-regulate their reading tend to have better reading comprehension results than low-achieving students, However, when it comes to text types (Sashikala & Chye, 2023), this principle does not apply. In other words, even though students report high levels of self-regulated reading in digital text, this does not mean that this will improve their reading comprehension results when reading printed text, and vice versa. As a result, the findings of this research strengthen previous research findings that online reading requires strategies that are appropriate to online reading literacy (Gilbert, 2017; Laeli et al., 2022; Li, 2020; Xu et al., 2023). Further, comprehension outcomes may differ when reading in printed and digital texts (Delgado & Salmerón, 2022).

Conclusion

Based on the data analysis in this study, a low negative relationship exists between students' reading abilities and self-regulated reading of digital text. This study suggests that although students may have applied effective self-regulated reading strategies in digital text, they may not always have good reading skills in reading printed text.

For future researchers, it is recommended that the relationship between reading ability and self-regulated reading in online texts be deepened by using the results of specific assessments of online reading activities. By paying attention to the specific context of online text reading, future research could provide deeper insight into how factors such as text format, digital reading habits, and online reading aids influence college students' self-regulated reading practices. In addition, researchers can also consider additional variables, such as students' level of technology skills or digital learning preferences, to enrich their understanding of the dynamics of the interaction between reading ability and self-regulated reading in the context of online texts. Thus, future research can significantly contribute to developing more effective and relevant learning strategies in the current digital era.

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