THE EFFECT OF ORDINARY CRUCIAL SKILL TO IMPROVE STUDENTS' ACADEMIC READING SKILLS

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Abstract

Previous surveys on college academic reading often utilized questionnaires and lacked in-depth analysis to assess students' reading skills. This present study involving 80 students of Universitas Pahlawan assessed students' academic reading skills using Correlation, Manova, and Duncan Test. In addition to examining the importance of these skills, this study also identified the need to have adequate academic reading skills. The gap between the pre-test and post-test signified the significant effects on reading skill, analysis and evaluation, reading strategies and efficiency, and influential factors. However, comprehension skills, linguistic discourse, and knowledge did not have a significant effect. Furthermore, this study also discusses the implications researchers and for the practices of the course. Researchers and practitioners can adopt a learning strategy that emphasizes analysis and evaluation in the reading process to enhance students' comprehension and reading skills. Additionally, they may consider the development of confidence and motivation as an integral part of the reading learning approach.

Keywords: academic reading, analysis and evaluation, college reading, comprehension skill, reading skill

INTRODUCTION

Academic reading skill is required for college students to understand various reading tasks (Moore *et al*., 2011). In this study, individuals are inclined to tailor their reading habits to correspond with their reading objectives, encompassing the cognitive goals of achieving informed engagement established while reading. The outcomes of reading, such as comprehension quantity, depth, and retention, are notably influenced by the set reading goals (Liu & Brown, 2019; Carver, 1997; Linderholm & Van den Broek, 2001; Van den Broek *et al*., 2001). However, students have diverse reading experiences (Van Den Broek & Espin, 2011) due to their varied linguistic backgrounds, but the context of the language used in higher education is English as the language used in material

delivery. Consequently, teachers are expected to address students' needs for academic reading mastery. Poole (2019) who used a reading strategy method for male students found that the reading strategies used by students with academic success were only slightly significant since some male students were unable to use these strategies. This study examined how academic reading ability affected undergraduate students' comprehension in an English-speaking university, specifically Universitas Pahlawan Tuanku Tambusai.

The cornerstone of higher education lies in academic reading (Cherif *et al*., 2015; Cox *et al*., 2003). A distinctive feature of academic reading is students' readiness to deeply engage with and value scholarly texts authored by proficient scholars, thereby immersing themselves in the discipline's culture. (Hermida, 2009). Experts have also noted that reading improves composition skills (Lockhart & Soliday, 2016; Flippo, 2008) and enhances critical thinking (Richard Paul & Elder, 2008).

The reading process and academic reading comprehension have been widely studied by researchers (Jordan, 2011; Brown, 2017; Poole, 2019; Oleinik *et al*., 2017; Flowerdew *et al*., 2011; Aharony & Bar-Ilan, 2018). The reading process requires a certain level of comprehension that determines the amount of information gained from reading (Goodman, 1988). According to (Harker 1987), the theory of the reading process can be divided into two categories: text-based and reader-based. The reading process encompasses two tiers: lower-level processes and higher-level processes (Hannon, 2011). Higher-level processes include text-based information (i.e., explicit facts), situational models (e.g., implied information), pragmatic interpretations (e.g., author's views, perceptions, and intentions), and even rhetorical data (i.e., rhetorical structure, genre type) (Graesser & Forsyth, 2013). On the other hand, the situation model and the text base's pragmatic meaning are usually built through the continuous integration, emphasis, and summary of textual data from the underlying processes known as the text base. This procedure depends on reasoning that combines the readers' prior knowledge with the information presented in the text (Kintsch, 2019). According to (Aharony & Bar-Ilan, 2018), there are two variables - relative

superiority and understanding - that can affect students' motivation to read electronic material.

The second language (L2) reading skill for academic purposes is crucial for university students since many universities use English to deliver instructions. (Yapp *et al*., 2021)   explored the correlation between students' reading comprehension and the application of seven reading strategies. Three tests of varying difficulty levels were employed to assess the students' reading comprehension. The results of this study showed that reading strategies significantly affected students' reading comprehension. In addition, teachers' attitudes also affect development of reading skills in higher education. Similarly, an interview done to 36 language teachers in New Zealand believed that the language learning benefits of extensive reading are highly effective in teaching (Macalister, 2010).

To determine the effectiveness of reading skills, investigations into programs and methods designed to teach basic reading skills for word identification, fluency, and comprehension were carried out by (Joseph & Schisler, 2009). This analysis revealed that reading skills significantly impact the reading achievement performance of students, particularly in regards to fluency. Additionally, it was found that students need to improve their ability to read expository texts effectively and meaningfully in order to succeed in university. (Pretorius, 2005) identified that students' anaphorical resolution while reading expository text in a second language greatly influences their academic reading and learning. On the other hand, a qualitative study by (Stoffelsma & Spooren, 2017) investigated the effectiveness of reading interventions at universities in Ghana. This research focused on text structure, vocabulary, and reading motivation, using a pre-test and post-test method to compare the control and experimental groups in regards to reading behavior, attitudes, and self-concept. The results showed that an increase in time spent reading positively affected students' attitudes towards reading.

Despite the widely-held belief that strong academic reading skills are crucial for success in higher education, studies have indicated that the correlation

between students' reading proficiency and their academic achievements or potential for progress is frequently minimal (French *et al*., 2015; Howard *et al*., 2018a). This suggests that students' reading patterns and experiences may not align with the conventional understanding of the importance of academic reading (Gorzycki *et al*., 2016; Williams *et al*., 2007). Hence, it is crucial for educators and researchers to comprehend the perspectives of both students and faculty regarding academic reading, the strategies and habits students use when reading, and how these factors affect students' reading skills, comprehension abilities, their ability to analyze and evaluate texts, reading efficiency, and their linguistic and discourse knowledge. Additionally, it is important to understand the impact of affective factors such as motivation, attitude, and self-perception on reading abilities.

The relationship between a reader and a text is complex and dynamic, and is influenced by a variety of factors including the reader's characteristics (e.g. prior knowledge, reading skill), the reading task, the text's structure (linguistic, logical, organizational) and the physical design of the text presentation (size, spacing, paragraphing, underlining etc.). In order to examine the impact of these factors on reading comprehension, the current exploratory study employed a multivariate experiment design in which the arrangement of text and its physical layout were adjusted separately to accommodate readers with different proficiency levels. The study subsequently evaluated the impact of these factors on three key measures: spontaneous recall, summarization, and oral reading speed. One of the main distinctions of the study is that it uses a Videotex system to present the text, which provides more interactive experience for the readers. This is unique as it allows study not only the text but also the medium in which the text is presented, which could play a role in how the readers process and understand the information.

Various contemporary models of text comprehension include the incorporation of a schema, defined as an abstractly organized cluster of knowledge that directs the manner in which we make selections, interpret, organize, store, and retrieve textual information. When engaging with a narrative text, a commonly used framework for understanding the organizing structure is

'story grammar' (Rumelhart, 2017). Analyzing story grammar and various forms of text structure offers a novel approach to assessing the importance of distinct elements within a text. In this model, the story's propositions are represented by the terminal nodes of a hierarchical tree (or clauses more loosely) and the text's importance, generality, or centrality are reflected in the hierarchy. The most critical or central propositions are located at the top of the hierarchy, while less critical, subordinate, or specific information is put at the bottom. Story grammar help readers to understand the story and its meaning more efficiently.

Comprehending the sound-to-symbol correlation in a language is an initial requirement for learners to internalize it completely. It holds true that even with a limited grasp of the graphemic connection to sound, learners may still read, as seen in a graduate reading course in a foreign language that only demands passive language skills. Once new learners, including international students, have mastered the alphabet and phonological system of the target language, they are prepared to enhance their reading abilities (Babapour *et al*., 2018).

It is true that reading speed is primarily determined by the internalization of the graphemic system, but once this foundation has been established, there are other exercises that can be used to help improve reading speed (Lopez *et al*., 2012). One of such exercises is recognizing pairs of graphemes with which the student is unfamiliar, which can be done through scanning or skimming drills. These exercises can be beneficial for both physical and psychological reasons. When a student is asked to scan or skim a passage, they are expected to complete the task as quickly as possible. This helps students understand that they are not expected to "understand" the entire passage, but only to look for specific information. These exercises help to improve a student's focus and concentration, as well as their ability to process information quickly. It also helps them to be efficient readers.

There have been several studies on academic reading in universities that have shown a relationship between reading speed and comprehension. Yapp *et al*.'s (2011) found the academic reading comprehension in university students improved significantly. Similarly, a study conducted by Nhapulo *et al*., 2017

found that students who were able to read faster also performed better on academic reading comprehension assessments, which suggests that reading speed and comprehension are closely linked skills. Additionally, the study found that students' more general reading abilities had developed into specific academic reading skills. These studies both demonstrate the importance of reading speed and comprehension as key components of academic reading.

Research conducted by (Howard *et al*., 2018) also explored the perspectives and practices of both students and faculty on academic reading. The study found that the faculty's expectations and attitudes towards academic reading were significantly higher than those of the students. This includes their perceptions of the importance and value of academic reading, their reading practices, and their attitudes towards reading pedagogy. On the other hand, a qualitative study by Zulu, 2005 on the intellectual literacy of first-year law students in the University of the North's Language and Academic Skills (EAS) course (now known as North-West University) found that while there was no significant difference in the pre-test and post-test means when looking at previous reading exposures, examination of the matrix scores revealed a statistically significant difference in the subjects' performance on the academic reading ability test. It suggests that other factors like the instruction, curriculum, assessment and the engagement of students in the reading course may have more impact in the development of the academic reading abilities than the previous reading exposures.

Research conducted by (Gorzycki *et al*., 2016) measured the academic reading abilities of 848 students from different grade levels using the Informal Academic Reading Proficiency Test. The results of the study indicate that academic reading proficiency does not differ significantly by grade level. This suggests that academic reading not only requires ability and understanding, but also time and practice. A study of undergraduate students by (Sharma *et al*., 2019) investigated the relationship between reading and time allocation. It was found that students who set aside time to read before a class or lecture were more likely to complete the assigned reading than those who set aside time closer to class.

Additionally, challenges faced by first-year students in the US include difficulties with the specific genres of reading required in their disciplines, lack of motivation, and issues related to reading strategies, such as reading speed, vocabulary, and effective reading techniques (Anderson, 2015). These are common challenges that students face when developing their reading abilities.

Despite their valuable conclusions, the aforementioned studies do not give definitive answers to concerns about general ability demands and reading difficulties at universities. The essence and complexity of the reading abilities tested differed considerably between tests, making it impossible to draw broad conclusions. For instance, two qualitative studies concentrate on explaining or classifying reading activities into two broad categories (i.e., interpretative literal and local-global) (Moore *et al*., 2011). Thereby, both fail to describe the cognitive abilities or resources required. Similarly, in two survey research by (Anderson 2015) and Hartshorn *et al*. (2017), many of the survey questions (e.g., "understanding course material" and "preparing for lectures") were too broad to provide specific insight into the basic reading skills required. As a result, more analytical research is required to examine the strength of reading in improving students' comprehension.

The subsequent set of research inquiries was put forward.

1. Is there an effect between pre-test and post-test treatment on reading skills?
2. How is the effect or effect of pre-test and post-test treatment on reading skills?

METHOD

Statistical correlation test was employed to assess the degree of association between independent and dependent variables. The strength of the relationship is determined by the proximity of the calculated value to 1 or -1. A value close to zero indicates a weak relationship between the variables. There are several types of correlation tests, including Pearson, Kendal's, and Spearman. In this study, we utilized the Pearson Correlation test.

After conducting the Correlation Test, to answer the research questions we proceeded with the Multivariate Analysis of Variance (MANOVA) path analysis

to examine multiple dependent variables. The MANOVA is similar to the One-Way Analysis of Variance (ANOVA), the main difference being the number of dependent variables under examination in the model. While ANOVA is limited to testing one dependent variable, MANOVA allows for the examination of multiple dependent variables.

After that, Duncan's multiple range was conducted as a post-hoc test that identified specific pairs of means that differ significantly. The test is based on the magnitude of difference between the means, and it can be used to compare all possible pairs of treatment means regardless of the number of treatments in the experiment, while maintaining the established level of significance.

RESULTS AND DISCUSSIONS

Results

The Effect between Pre-Test and Post-Test Treatment on Reading Skills

Statistics Descriptive

Descriptive statistics are initial data analysis techniques used to provide a general understanding of the variables being studied. Descriptive statistical analysis includes summarizing the data in terms of central tendency (mean, mode, median, etc.) and measures of dispersion (standard deviation, variance, etc.). The average value and standard deviation of all variables in the study are presented in Table 1.

Table 1.

Descriptive Statistics of research variables

No	Variable	Pre Test		Post Test	
		Mean	SD	Mean	SD
1	Reading Skill	3.40	0.63	3.53	0.66
2	Comprehension skill	3.50	0.60	2.84	0.96
3	Analyzing and evaluating	3.32	0.68	3.42	0.68
4	Linguistic and discourse knowledge	4.41	1.79	3.43	1.14
5	Reading strategies and efficiency	4.79	1.93	4.84	1.91
6	Affective factors	3.28	1.52	3.35	1.52

Table 1 displays the descriptive statistics, encompassing the mean and standard deviation, for all variables examined in this research, which have been separated into pre-test and post-test groups. The table indicates that of the six variables tested, four displayed an increase in mean value from pre-test to post-test. These four variables are Reading Skills, Analysing and Evaluating, Reading strategies and efficiency, and Affective factors. In contrast, the mean values of the other two variables, Comprehension skills and Linguistic and discourse knowledge, decreased from pre-test to post-test.

Pearson's Correlation

A statistical method in the form of Pearson's Correlation Test was used to determine the strength of the relationship between variables in this research. The results are shown in Table 2.

Table 2.

The results of the Pearson correlation test between variables

No	Variable	R					
		1	2	3	4	5	6
1	Reading Skill		0.104	0.163*	-0.030	0.144*	-0.021
2	Comprehension skill	0.104		0.101	0-.131*	0.726**	0-.297**
3	analyzing and evaluating	0.163*	0.101		-0.032	0.009	0.025
4	Linguistic and discourse knowledge	-0.030	0-.131*	-0.032		-0.121	-0.097
5	Reading strategies and efficiency	0.144*	0.726**	0.009	-0.121		0.062
6	Affective factors	-0.021	0-.297**	0.025	-0.097	0.062	
**. Correlation is significant at the 0.01 level (2-tailed).							
*. Correlation is significant at the 0.05 level (2-tailed).							

Table 2 displays the correlation coefficients for the measured variables in this research. The results indicate that the Reading Skill variable has a moderate to strong correlation with the variables of Analysing and evaluating and Reading strategies and efficiency. However, it does not display a significant correlation with the variables of Comprehension skill, Linguistic and discourse knowledge,

and Affective factors. On the other hand, the Comprehension skill variable shows strong correlation with the variables of Linguistic and discourse knowledge, reading strategies and efficiency, and Affective factors, but not with the variables of analysing and evaluating.

Kendall's Tau Test

Kendall's Tau Test was conducted to determine the relationship between two variables in an ordinal scale or one of the data on an ordinal scale while the other data on a nominal or ratio scale. The outcomes of Kendall's Tau are displayed in Table 3.

Table 3

Kendall's Tau results

Correlations			RS	CS
Kendall's tau_b	RS	Correlation Coefficient	1.000	-.113[*]
		Sig. (2-tailed)	.	.049
		N	240	240
	CS	Correlation Coefficient	-.113[*]	1.000
		Sig. (2-tailed)	.049	.
		N	240	240
*. Correlation is significant at the 0.05 level (2-tailed).				

Kendall's tau b value indicates the close relationship between the two variables being tested. In this study, the two variables tested were Reading Skills and Comprehension Skills. Table 6 shows that the value of Kendall's tau b obtained is -0.113 with a value of Sig. (2-tailed) of 0.049. Because the Sig value obtained is less than 0.05, the Reading Skills and Comprehension Skill variables have a significantly close relationship, 11.3%.

MANOVA test

Manova stands for Multivariate Analysis Of Variance. Manova is almost similar to One Way Anova; with slight difference in the number of dependent or dependent variables. In One Way Anova, there is only one dependent variable,

while in Manova, there are multiple dependent variables. The results of the Manova test are presented in Table 4.

Table 4.

The results of the Manova test

Multivariate Tests						
Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.969	3737.191[b]	2.000	236.000	.000
	Wilks' Lambda	.031	3737.191[b]	2.000	236.000	.000
	Hotelling's Trace	31.671	3737.191[b]	2.000	236.000	.000
	Roy's Largest Root	31.671	3737.191[b]	2.000	236.000	.000
Model	Pillai's Trace	.017	1.031	4.000	474.000	.391
	Wilks' Lambda	.983	1.029[b]	4.000	472.000	.392
	Hotelling's Trace	.017	1.027	4.000	470.000	.393
	Roy's Largest Root	.015	1.833[c]	2.000	237.000	.162
a. Design: Intercept + Kat						
b. Exact statistic						
c. The statistic is an upper bound on F that yields a lower bound on the significance level.						

There are four types of model testing; MANOVA test, namely Pillai's Trace, Wilk's Lambda, Hotellings's Trace, and Roy's Largest Root tests. The results of the four tests would show whether pre-test and post-test treatment affected the average difference in reading and comprehension skill variables. The Intercept value is the value of the change in the dependent variable that is not necessarily influenced by the existence of the independent variable. Hence, even without the influence of the independent variable, the dependent variable can change its value. As seen in Table 6, the intercept value for the variable Reading Skill and Comprehension skill is both 0.000. It can be implied that without the independent variable's influence, the value of Reading Skill and Comprehension Skill experienced a significant change for the pre-test and post-test treatments. The model values for the four types of tests on the Reading Skill and Comprehension skill variables all state values greater than 0.05. Therefore, the influence of the independent variable on the value of Reading Skill and Comprehension Skill is not significant enough in the pre-test and post-test treatment.

Duncan's DMRT

Duncan's test assesses significant difference values that escalate with the disparity between the magnitudes of the two mean values under comparison. This test is capable of detecting variations among all conceivable pairs of treatments, irrespective of the total number of treatments. The subsequent outcomes represent the findings of the Duncan DMRT test in this investigation.

Table 5.

Duncan Test Results

Reading_Skill		
Duncan.b,c		
Kategori	N	Subset 1
1.00	84	3.4019
3.00	49	3.4490
2.00	107	3.5179
Sig.		.315

Table 7 indicates three groups with different averages. The first shows an average of 3.401, the second group shows an average of 3.517, and the third group of 3.449. All comparison pairs showed a significant difference ($P > 0.01$) seen from the value in the Sig = 0.315 columns, meaning that the difference in pre-test and post-test treatments did not significantly affect students' reading skill scores.

Table 6.

Duncan's test results

Comprehension_skill		
Duncan.b,c		
Kat	N	Subset 1
1.00	84	2.6736
2.00	107	2.8735
3.00	49	2.9159
Sig.		.145

As presented in Table 8, there are three groups of different averages, with the content of the groups being the same average. The first group shows an average of 2.673, the second group shows an average of 2.873, and the third group shows an average of 2.915. All pairs of comparisons show a significant difference (P>0.01) seen from the value in the column Sig = 0.145, indicating that the gap between pre-test and post-test treatments did not significantly affect students' comprehension skill.

Discussions

This research examined the impacts of a post-test and a pre-test on students' reading achievement. Three data analyses were simultaneously used to compare the effect of reading post and pre-test. The first significant finding from descriptive statistics showed that students in both groups made statistically significant gains in reading skills, reading strategies and efficiency, and affective factors from pre-test to post-test. The combination of strategies has positive and relatively strong effect on students' reading averages, as indicated by effect sizes ranging from medium to large. In addition to the statistical significance, the results of this study also offer practical significance.

Positive changes in reading and comprehension skills indicate the progress in from frustration to an instructional level. Although no formal decoding instruction is provided, this increase may be due to the students' high reading comprehension. Furthermore, in situations where the instructor facilitated the utilization of contextual cues and encouraged students to connect the text with their existing knowledge, the pre-reading strategy exhibited a positive and substantial influence on the enhancement observed from the pre-test to the post-test. To complete the practice activities, students must independently reread the text, which improves their reading fluency. Even when students' reading skills are below average, teachers should consider incorporating these reading activities into their instruction.

The significant findings obtained from descriptive statistics align with relevant theories of reading instruction. In the context of reading skills theory, the

research findings indicate a meaningful improvement in students' reading skills, illustrating their progression from basic comprehension to more complex levels of understanding. Furthermore, the positive outcomes in reading strategies and reading efficiency can be elucidated through the lens of reading strategies theory, emphasizing the importance of employing diverse reading strategies to enhance students' abilities.

The theory of contextual effect is also pertinent in interpreting the research findings, particularly regarding teachers facilitating the use of contextual cues and connecting texts to prior knowledge. This corresponds with the principles of contextual effect theory, highlighting the role of the learning environment in enhancing students' comprehension. Additionally, the improvement in affective factors, such as reading motivation, is consistent with the reading motivation theory, indicating that enhanced confidence and motivation positively impact reading progress.

The study also reflects the principles of independent learning theory, where students are given the responsibility to independently reread texts as part of practice activities. This process can enhance reading fluency and provide students with greater control over their own learning. Thus, the integration of empirical findings with these theories contributes significantly to understanding how the implementation of reading strategies and contextual factors can shape positive progress in students' reading skills.

Second, from pre-test to post-test, the group achieved a statistically insignificant mean score for reading comprehension skills, indicating the absence of significant effect on students. This outcome could be due to a variety of factors. Initially, the reading comprehension queries were divided into two segments, each containing an equal distribution of literal and inferential questions. Prior studies on story grammar instruction did not explore the potential enhancement in students' reading comprehension by integrating an inferential reading element into both story grammar instruction and story maps.

Students' inadequate prior knowledge of the topics covered in the informal reading inventory readings could also affected this condition. Furthermore, most

students also had low literacy level. To understand the text, students must activate and reflect on their prior knowledge of a topic, as stated in the literature. Students with limited background knowledge may not be able to relate texts to the context and they would not be able to use predictive strategies to gain better understanding. As a result, for instructional purposes, the teacher must first determine whether or not the student has the required prior knowledge about a topic before incorporating pre-reading strategies.

Students have significant abilities in the areas of analysis and evaluation. It can be seen from the development of the pre-test to the development of the post-test. Students analyzed and evaluated the texts they read in such a way that the analysis and evaluation affect the students' reading ability. In addition, it is necessary to determine which affective factors that positively influence student development. For successful language learning, affective factors might be important than cognitive abilities (Cooter, 1994). Teachers can minimize the intervention of negative factors and increase positive ones through engaging in activities that foster a positive group dynamic and by actively involving students in the planning of the course, along with selecting activities that align with the age and interests of the learners. Greater impact of the affective factor will be followed by better student's ability which then positively affected students' reading skills.

CONCLUSION

This research examined students' reading skill, comprehension skill, analyzing and evaluating, linguistic and discourse knowledge, reading strategies and efficiency, and affective factors. After the pre-test and post-test processes, students read and understood better and fluently through analysis and evaluation during reading process. In addition, students became more confident and developed stronger reading motivation. Further research needs to be conducted to gain deeper insights about the progress of the control group and the three proficiency groups. Future researchers are suggested to include wider educational contexts in determining whether students' academic reading, when used over time

improve students' reading abilities across the skill spectrum, particularly among novice students.

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