The Correlation Between TOEFL Reading Score and Critical Reading Comprehension of EFL Students

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A B S T R A C T

TOEFL has played a very important role in predicting students' academic performance. However, very limited research has specifically addressed the relationship between the TOEFL reading section and students' critical reading comprehension, as most existing studies predominantly focused on the correlation between overall TOEFL scores and students' academic performance in general, such as GPA. This research examined the correlation between TOEFL reading score and critical reading comprehension of TBI students at UIN Datokarama Palu. A quantitative approach through correlational design was employed with 30 students as participants. Data were collected by using TOEFL reading test and GPA of critical reading comprehension course of students. Pearson product moment correlation was used to analyze the data. The results revealed a significant positive moderate correlation ($r = 0.587$, $p = 0.01$) between two variables. Reflecting that as one variable increases, the other variables tend to increase as well with a meaningful but not perfectly linear relationship. This indicates that students' proficiency in the TOEFL reading section not only reflects their reading ability in English generally, but also correlates with their capacity to understand, analyze, interpret, and evaluate information in the reading text critically. By integrating TOEFL reading test into students' critical reading exercises, educators can strengthen students' critical reading comprehension that emphasizes determining main idea, identifying arguments, and evaluating evidences.

I. Introduction

Test of English as a Foreign Language or TOEFL is commonly used to measure English capability of non-native speaker of English. This test has long been used as a measure for predicting academic performance of students at the international level [1]. This is especially true as the TOEFL test has so far played a very important role for determining the level of performance of EFL students required to be successful for completing their study in most English-speaking universities. Beyond using as a common requirement for university admission and internation scholarship [2], the TOEFL score is often used for evaluating students ability in academic settings. One of the most critical sections in the test that reading comprehension. The TOEFL reading section aims to measure students' ability to understand and comprehend the reading passage [2]. This section requires students to engage in high-level processing skill such as understanding about the content and context of the text, identifying main ideas, making inferences, and evaluating evidences [3]. These skills aligned with the concept of critical reading comprehension, which involves not only comprehension in finding the meaning of words, phrases, and sentences, but also analyzing, interpreting, and evaluating information presented in the text. Therefore, the urgency for

taking the standardized test such as the TOEFL test, may serve as a potential means to foster students' critical reading skill.

Critical reading is one of skills that acquires and attains effective knowledge in language education [4]. It requires students to actively engage with the text and evaluate the arguments. It is true that critical reading comprehension has a crucial role in enhancing students' understanding of content and context in a text [5]. Students with critical reading skill can uncover underlying messages and generate deeper understanding of the text. They are able to find a lot of information, outcomes, insights, and messages presented by the author. These abilities help them to answer higher-order questions in standardized TOEFL reading section. Thus, the TOEFL reading section not only assesses language proficiency, but also promote students' critical reading comprehension.

A number of previous studies have extensively explored the importance of the TOEFL test for measuring students' English proficiency. The study of Riccardo Corrado, Audrey Liwan, and Sereyvhut Khat has largely emphasized on the relationship between English proficiency and general academic performance of students. The research found that there was a strong correlation between students' English proficiency and academic performances [6]. Another study that aligned with the previous one also investigated the relationship between English proficiency of students and their academic achievement. It underscored the impact of students' English proficiency by examining all of the language skills that influenced students' performance in academic settings, particularly EFL students. It revealed that there was a significant linear correlation between English language proficiency and academic achievement [7]. These studies provided important understanding about how TOEFL tests influence students' academic performance related to their GPA. Moreover, most of the research focused on general GPA outcomes, with limited investigation into how specific TOEFL, particularly the reading section, correlate with critical reading comprehension. To fill this gap, the current research examines the extent of TOEFL reading scores can predict EFL students' critical reading comprehension, offering the understanding of EFL students regarding TOEFL reading section and its impact to their critical reading comprehension. Therefore, this study aims to examine the correlation between TOEFL reading scores and critical reading comprehension of EFL students. Based on this objective, the research question is formulated as follows: Is there any correlation between TOEFL reading scores and critical reading comprehension of EFL students?

II. Method

This research used a quantitative approach in a non-experimental correlational design. The Quantitative approach is used to analyze and present data statistically based on observed trends. In addition, a non-experimental is a method which does not manipulate the data [8]. It does not involve data manipulation, focuses on examining the relationships between variables [8]. Furthermore, correlation design aims to measure the degree of relationships between two or more variables and predict scores based on the identified patterns [9]. In this research, the population involved TBI (Tadris Bahasa Inggris) student batch 2021, 2022, 2023 at UIN Datokarama Palu. Furthermore, the population was 110 students. From this population, a sample of 30 EFL students was selected by using purposive sampling. The purposive sampling was employed to select participants based on specific characteristics aligned with the research objective [10]. The criteria for selecting the sample included: students who have completed a critical reading comprehension course and students currently in their final semester. These criteria ensured the participants had sufficient academic experience and exposed to proficient reading materials that relevant to the study focus.

The instrument employed in this study was a standardized TOEFL reading section test, reprinted by permission of ETS and provided by Pearson Education, Inc. It consists of 50 numbers of multiple choice with four options (A, B, C, and, D), designed to measure students' academic reading skills. There is no specific background knowledge, it can be psychology, geography, psych, science, etc [11]. The test duration is 55 minutes. In addition, document study was used as an instrument to access and identify students' final scores in the critical reading comprehension course.

To collect the TOEFL reading scores data, test was administered at the same time under controlled conditions. Moreover, to obtain data on students' critical reading comprehension, document analysis was employed. The researchers identified students' final score in the critical reading comprehension course in their GPA transcription., which were presented in numerical form.

To analyze the data, the researchers used Statistical Package for Social Science or SPSS 30 version. This program consisted of frequency, testing normality, testing hypothesis, and other

statistical tests. The researchers conducted descriptive analysis to obtain details and information about the data [12], measuring the correlation between two variables under study and describing statistical data about means and percentages. Furthermore, inferential analysis was also conducted for predicting the sample data [13]. It is used to understand the relationship and the hypothesis to make predictions and conclusions. There were several steps in this analysis, first, the researchers used a normality test that determines the normality distribution of the data, checking the validity and reliability [14]. The researchers used Shapiro-Wilk test to evaluate the normality assumption of data [15]. This test is considered more appropriate for small sample sizes (n < 50) due to its higher power in detecting deviations from normality compared to other normality tests [16]. Considering the current research involve a sample of 30 students, the Shapiro-Wilk test deemed appropriate for evaluating the normality assumptions. In addition, Pearson product moment correlation was employed to examine the correlation between the variables under study. The correlation coefficient represented by r, while the probability value represented by ρ. The coefficient value took -1 (negative correlation) through 0 to +1 (positive correlation). In the final step, a hypothesis test is needed to examine whether there is sufficient evidence to support or reject the hypothesis, based on the significance level obtained.

III. Result and Discussion

A. Result

This part begins by presenting the descriptive statistics of the variables involved, followed by inferential analysis that is divided into three steps, which is normality test, Pearson product moment correlation, and hypothesis test. The analysis explored the correlation between two variables and evaluation of hypotheses based on the findings. The research aimed to examine whether there is correlation between the two variables. In the descriptive analysis, the researchers explain TOEFL Reading Score and Critical Reading Comprehension data, frequency scores, and percentage of the scores of the two variables.

Table 1. Descriptive Statistics of TOEFL Reading Score and Critical Reading Comprehension Data

	N	Minimum	Maximum	Mean	Std. Deviation
TOEFL Reading Score	30	27.00	49.00	37.4667	6.40583
Critical Reading Comprehension	30	78.55	89.10	83.9570	2.75409

Based on the table 1, it can be summarized that the minimum score of TOEFL Reading Score is 27.00, the maximum score is 49.00, and the mean score is 37.4667 with a standard deviation of 6.40583. This indicates that the scores were clustered around the average or mean value. In other words, most of the scores were reasonably close to the mean, with some scores being a bit higher or lower, but not extremely far from the average. In addition, the minimum Critical Reading Comprehension score is 78.55, the maximum is 89.10, and the mean score is 83.9570 with a standard deviation of 2.75409. The smaller standard deviation suggests that the students' critical reading comprehension score was more consistently around the mean. It indicates their abilities were homogeneous in this area. The distribution of the data of two variables suggests that students' TOEFL Reading Score varied widely and their Critical Reading Comprehension were more uniformly developed.

In the second step, the researchers conducted the normality test. The normality test is a statistical tool to determine the normality distribution of data. This test presents a set of data which includes the statistics, amount of sample and the normality significance level of the two variables.

Table 2. Test of Normality

	Shapiro-Wilk		
	Statistic	Df	Sig.

TOEFL Reading Score	961	30	336
Critical Reading Comprehension	950	30	166

*This is a lower bound of the true significance

a. Lilliefors Significance Correction

The Shapiro-Wilk test is used to evaluate the normality assumption of data [15]. In this research, the sample size for both variables were 30 students. This test is particularly effective used with small sample sizes (n < 50). In this test, the data is regarded normally distributed if the obtained significance value is greater than 0.05 (level sig > 0.05). Based on the table 2, the probability value (sig) for the TOEFL Reading Score is 0.336 > 0.05 and the Critical Reading Comprehension is 0.166 > 0.05. By conducting this test, the result indicates that the data distribution follows a normal pattern.

After conducting normality test, the researchers analyzed the correlation between both variables by using Pearson product moment correlation. This test determines the strength and direction of both. The following table shows the analysis result.

Table 3. Pearson Product Moment Correlation Analysis

		TOEFL Reading Score	Critical Reading Comprehension
TOEFL Reading Score	Pearson Correlation	1	587**
	Sig. (2-tailed)		<.001
	N	30	30
Critical Reading Comprehension	Pearson Correlation	587**	1
	Sig. (2-tailed)	<.001	
	N	30	30

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

Based on the correlation analysis results, the Pearson Correlation is (r) is 0.587, with a significance level of (2-tailed) of <.001. As proposed by Cohen, Manion, and Marrison, if the sample is 30 with significance level 0.01, the correlation value must be obtained 0.47 or higher to state that the correlation is significant [17]. In this research, the correlation value is 0.587, indicating a significant correlation between two variables, suggesting that as one variable increases, the other variable tends to increase as well. The significance level of p value <.001 demonstrates that the probability of obtaining this correlation by random chance is less than 0.1%, which provides strong evidence to reject the null hypothesis (Ho). Therefore, it can be concluded that there is a statistically significant correlation between the two variables.

In most correlational research, it is important to provide the effect size of the correlation. The effect size determines the magnitude of the correlation between two or more variables [17]. This quantifies the amounts of variables examined. The following table provides detailed information about association (positive or negative) of the correlation and interpretation of the effect size. According to Cohen, Manion, and Marrison, the effect size <0 +/-5 is categorized as moderate correlation [17]. Therefore, the result of this research revealed 0.587 (r) value. Based on the results obtained, it can be classified that the strength relationship between both variables is positive moderate correlation.

For determining the correlation between TOEFL reading score and critical reading comprehension of students, the hypothesis test was conducted by using Pearson product moment correlation. The hypothesis for this research was:

(Ho): There is no correlation between TOEFL reading score and critical reading comprehension of EFL students.

(Ha): There is correlation between TOEFL reading score and critical reading comprehension of EFL students.

Table 4. Hypothesis Test

Variable	Pearson Correlation (r)	Sig. (p-value)	Interpretation
TOEFL Reading Score and Critical Reading Comprehension	0.587	0.001	Significant positive moderate correlation

Based on the result of the hypothesis test, (r) value was obtained 0.587 with significance (p) value 0.001, indicating a significant positive moderate correlation between TOEFL reading score and critical reading comprehension of EFL students. Therefore, it can be concluded that Ho is rejected and Ha is accepted.

B. Discussion

The findings of this research revealed significant positive moderate correlation (r= 0.587, p = 0.001) between the two variables. The significant positive moderate correlation indicates that the relationship between both variables is moderately positive, meaning as one variable increases, the other tends to increase as well, reflecting a meaningful but not perfectly linear relationship. It suggests that students who achieved higher scores in the TOEFL reading test tend to achieve higher scores as well in critical reading comprehension. The significant positive moderate correlation implies that improving students' reading skill in standardized tests like TOEFL may contribute to improving their critical reading comprehension. The findings aligned with a number of previous studies that showed significant correlation between TOEFL and other academic achievement, especially reading comprehension. For instance, Riccardo Corrado, Audrey Liwan, and Sereyvhut Khat found higher scores in English proficiency test demonstrates better scores in academic performance, highlighting the impact of students' English proficiency related to their GPA [6]. Similarly, the research of Anit Pradita Devi emphasized the insights about English proficiency in increasing students' academic achievement in educational settings [7].

Furthermore, the findings aligned with interactive reading models, which integrates bottom-up and top-down process in reading. This model provides a more comprehensive framework for understanding successful reading, as it recognizes the two models of understanding words and sentences (bottom-up) and constructing meaning through prior knowldege, inference, and predictions (top-down) [18]. The positive relationship between TOEFL reading scores and critical reading comprehension suggests that students who are able to ingrate these reading models more effective in analyzing and interpreting a text. It suggests that these reading models also contribute to promote their critical reading. Another relevant theory that has a positive direction with the findings is the role of background knowledge in enhancing students' reading comprehension. Background knowledge plays a pivotal role in facilitating students reading comprehension by enabling them to make inferences and integrates new information with prior knowledge [19]. In accordance with the argument, a number of researchers found that students' background knowledge helped students to achieve higher scores in reading test like TOEFL [20]. Moreover, study revelead that students who have high-levels of background knowledge tend to understand a text comprehensively [19]. This highlights the importance of activating students' background knowledge, as it may contribute to their success in high-level reading assessment or standardized test like TOEFL, while also fostering the development critical reading skill.

However, some limitations must be acknowledged. The sample size of 30 students may not fully represent the population of TBI Students batch 2021. Future researchers could involve a larger population and sample for better results and findings. Additionally, this research only examined the correlation between TOEFL reading score and critical reading comprehension without evaluating other relevant variables such as vocabulary mastery, reading strategies, reading motivation and background knowledge. Moreover, the TOEFL reading score of students is only one of the aspects that determine students' reading comprehension, particularly critical reading.

IV. Conclusion

This research has examined the correlation between TOEFL reading score and critical reading comprehension of EFL students. Primarily, it was conducted to investigate whether students' score in the reading section of TOEFL could predict their comprehension in critical reading, particularly in academic context. Based on the data collected, the result revealed (r) value 0.587 with significance (p) value 0.001, indicating a significant positive moderate correlation between two variables. It indicated that students who achieved higher scores in the TOEFL reading test tend to achieve higher scores as well in critical reading comprehension. This statistical result, supported by Pearson product moment correlation and normality test through Saphiro-Wilk, verified that the correlation between both variables was valid. It can be stated that there was a statistically significant positive moderate correlation between the two variables.

In addition, the finding suggested that students' proficiency in the TOEFL reading section not only reflect their reading ability in English generally, but also correlated with their capacity to understand, analyze, interpret, and evaluate information in reading text critically. Furthermore, the findings were consistent with previous researches that found significant correlation between TOEFL and other academic achievement, especially reading comprehension. Furthermore, the needs for educators highlighted the importance of integrating TOEFL reading test into students' reading comprehension exercises that emphasize determining main ideas, identifying arguments, and evaluating evidences in the reading test to strengthen their critical reading comprehension. It also suggested to future researchers for expanding similar research with a larger population and sample for better results. Moreover, they could explore other relevant variables such as vocabulary mastery, reading strategies, reading motivation, and background knowledge that generate a deep understanding about reading comprehension for better understanding. Based on the results obtained, this research is expected to provide new insights into the importance of the TOEFL and to contribute in enhancing students' academic reading skill, particularly in critical reading.

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