The Correlation Between Students` Critical Thinking and Speaking Skill in English Class at Diploma 4 of The Health Promotion Study Program

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Abstract

English is a crucial medium of communication, with fluency in four language skills: listening, speaking, reading, and writing. Speaking is one of the most challenging skills, as it allows students to engage in conversations, express meaning, and express opinions. Thinking is a key factor in developing speaking abilities, as it helps individuals solve issues, make decisions, and achieve goals. This research aimed to measure the correlation between students' critical thinking and their speaking skills. A quantitative study of 14 first-semester students of the Diploma 4 Health Promotion study program at Sari Mulia University found a weak correlation (rho coefficient 0.209, sig. score 0.494). The results reject the alternative hypothesis (Ha), indicating that there is no significant correlation between students' critical thinking and speaking ability, confirming the null hypothesis (Ho), is accepted.

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INTRODUCTION

English has become a very important medium of communication in the world because of its position as an international language as well as a language of technology. Indonesia recognizes the importance of mastering the English language as it belongs to global society; hence, English teaching has been incorporated into Indonesian education for a long time. English has long been a part of Indonesia's educational system. As it is a required course at the university level based on Government Regulation No. 19 of 2005 Article 9, paragraph (2), which specifies that the curriculum of the higher education unit level is compulsory, one of which is English.

Brown (2018) stated there are four language skills in English that have to mastered by the English learners. They are listening, speaking, reading and writing. Speaking is one of the important language skills that must be mastered by the students. Among the four language skills, speaking is also one of the most important aspects of English language learning; speaking is considered to be the most challenging skill (Navidinia et al., 2019). Students can communicate with the teacher and people around them by using speaking. which means speaking skills are needed by the students. Speaking skills combine several related factors, one of them is type of thinking. It is an important activity in people's lives that helps people solve issues, make proper decisions, and achieve the goals that give their lives meaning. Students' critical thinking is one of the aspects that affects their ability to talk effectively. It is crucial to use and develop students' critical thinking skills when they are studying English.

According to Rahmawati (2018) students faced difficulties in generating ideas in the speaking process. Students cannot develop ideas well. It could be seen from their speaking that they were stuck in developing the sentences. Based on the problem, it can be concluded that the lack of speaking is caused by a lack of critical thinking. The successful of speaking skill is influenced by some factors one of them is students' critical thinking. Students' critical thinking is important to be applied and improved in learning English. Critical thinking helps students to mastery speaking. Students' critical thinking will encourage students to speak English, because there are a lot of ideas, opinions, in their mind which will be conveyed.

As stated by Ennis (2011), critical thinking is a method of thinking in order to draw conclusions by thinking actively, thoroughly, and slowly. This suggests that the ability to think critically does not need the student to accept or conclude facts, but rather that it must be grasped slowly. Critical thinking means correct thinking in the pursuit of relevant and reliable knowledge about the world. Another way to describe is reasonable, reflective, responsible, and skillful thinking that is focused on deciding what to believe or do.

Critical thinking helps students to be skeptical and enable them to analyze and interpret opinions. These skills help them to make more instructed decisions about the accuracy and effectiveness of propositions. Those students who develop critical thinking can go beyond the surface of the subjects they are studying and engage in critical statements and arguments (Cottrell, 2005). For a learning process be effective, students should be able to apply both critical thinking and language learning strategies in an appropriate way. According to Pratiwi (2018) students with good critical thinking tend to have good speaking skills in class, in contrast students with weak critical thinking tend to have inadequate communication skills. In this example, low critical thinking indicates that children frequently think in ambiguous, imprecise, and incorrect ways.

Although many studies have investigated on students' speaking skills in English classes and their critical thinking abilities separately, there is a notable gap in the literature that specifically explores the relationship between students' critical thinking and their speaking skills in the context of English language learning. Previous research tended to focus on specific aspects of speaking skills, while the critical influence of student thinking on the ability to speak English still requires a deeper understanding. This research aims to bridge this gap by conducting an in-depth investigation into how students' critical thinking abilities influence their speaking skills in English class. By addressing this gap, the study aims to provide valuable insights for educator to enhance the teaching methods and strategies tailored to improving both critical thinking and speaking skills among students in English language classrooms

METHODS

This research employs a quantitative approach. The study aims to examine the correlation between students' critical thinking and speaking skills. The population for this research is first-semester students of the Diploma 4 Health Promotion program at Sari Mulia University. The sample is selected using the saturation sampling technique, with a total of fourteen students. The researcher uses a questionnaire and a speaking test. The questionnaire consisted of 21 questions adopted from Sarigoz (2012), which were measured using a five-point Likert type. The researcher translated the questionnaire into Indonesian to make it easier for students to understand the meaning of the statements. The speaking test was conducted to assess students' speaking skills by asking them to give some opinions related to some topics that had been mentioned in class. The topics relate to the materials that were learned in the classroom and to current issues. The researcher gave the score based on the rubric, which consists of speaking components that were described by Fulcher (2014).

The collected data were analyzed and interpreted in the context of the research design to address the research problems following the analysis requirement test. The researcher did the reliability test to minimize the bias. The researcher did a normality test to see if both data were normally distributed. After that, the results of the two variables are analyzed to determine whether there is a correlation or not between the two variables addressed in this study. In this research, the correlation test will be used to calculate the data by using the Pearson Product Moment Correlation Technique analysis through SPSS 25. Correlation testing is used to examine whether there is a significance correlation between two variables. The research used Pearson Product Moment if the data was normally distributed, but if one of the data was not normally distributed according to Tanner (2012), it is permissible to use other alternatives to correlation testing, such as spearman rho.

RESULTS AND DISCUSSION

To measure the research instrument reliability, the researcher used the Cronbach alpha for critical thinking and Interrater reliability for speaking test. Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. If the Cronbach alpha coefficient is > 0,6, it means that the research instrument used is reliable.

Table 1. Reliability Testing Critical Thinking

Cronbach's Alpha	N of Items
.666	21

The table showed that Cronbach's alpha coefficient is 0,66. Based on reliability testing theory by Wiratna (2014), if the Cronbach alpha coefficient is >0,6, it means that the research instrument used is reliable. To ensure reliability and minimize bias in the assessment process, two assessors were involved: the researcher and an English lecturer. Interrater reliability was employed to enhance the consistency of the assessment. The raters awarded speaking test scores individually by using oral proficiency scoring categories by Fulcher as a guideline. It consists of five categories: accent, grammar, vocabulary, fluency, and comprehension. The score was then tested with Cohen's kappa testing. Cohen's kappa is a quantitative measure of reliability for two raters that are evaluating the same thing

Table 2. Inter-Rater Reliability Testing

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Measure of Agreement	Kappa	.733	.129	6.911	.000
N of Valid Cases		13			

a.　　　Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

The result of inter-rater reliability testing using SPSS showed that, the number of 0.733 resided between kappa 0.61-0.80, that means the inter-reliability is substantial. Inter rater reliability categories as follow;

Table 3. Coefficient Correlation Interpretation

Kappa Statistic	Interpretation
< 0.20	Slight agreement
0.21 – 0.40	Fair agreement
0.41 – 0.60	Moderate agreement
0.61 – 0.80	Substantial agreement
0.81 – 0.99	Almost perfect agreement

Critical Thinking Test

In term of critical thinking result, the Likert score is used to know student critical thinking level. The researcher sums the Likert score of each respondent answer to know the level their critical thinking. Look at the table below to know the result of students' critical thinking.

Table 4. Students' Critical Thinking Score

N	Valid	13
	Missing	0
Mean		74.23
Median		75.00
Mode		66[a]
Std. Deviation		5.960
Variance		35.526
Range		18
Minimum		66
Maximum		84

a. Multiple modes exist. The smallest value is shown

Based on table 4, it can be seen that minimal score of critical thinking is 66, and the maximal score is 84. This score would be categorized based on the level of critical thinking skill namely as follows, very high, high, enough, low, and very low.

The basis for categorizing scores or scores of students' critical thinking skills can be seen in table below

Table 5. Categorization of Critical thinking Skills

Class Interval	Categorization
X > 84	Very high
70 - 84	High
57 - 70	Enough
41 - 56	Low
X < 41	Very low

From the table above shows that result of critical thinking students. It can be concluded that 9 students have high critical thinking, and there are 4 students who got enough of critical thinking. The average score of at all students is 74,23. The median score is 75,00. While the mode is 66. Then Std. Deviation is 5,960. The lowest score of this variable was 66 and the highest one was 84.

Speaking Test

Speaking test was given to get the score of students' speaking skill. To take students' scores in the speaking test, the researcher was made a cooperation with the lecturer of speaking class as the second rater. To arrive at the total score, the researcher calculated the speaking scores of the students. It can be said that is 1 student has excellent Speaking skill, 1 student has very good Speaking skill, 2 students had good Speaking skill, and there were 7 students who got fair, 2 students had poor score of speaking skill. Here is the descriptive statistic of speaking test. The table below showed the descriptive statistic of the speaking test. It contains mean, median, mode, standard deviation, range, minimum, maximum score.

Table 6. Descriptive Statistic of Speaking Test

N	Valid	13
	Missing	0
Mean		14.31
Median		12.00
Mode		11
Std. Deviation		4.854
Variance		23.564
Range		16
Minimum		10
Maximum		26

In normality test, the Shapiro-Wilk is used to test the data. The data can be said to be normally distributed if the significance value is more than 0.05 (sig> 0.05). The use of Shapiro-Wilk due to the sample is less than 30 respondents. The following table shows the results of the data normality test:

Table 7. The Result of Testing Normality

| | Shapiro-Wilk | | |
	Statistic	df	Sig.
Speaking	.814	13	.010
CriticalThinking	.950	13	.597

From the result above, it can be seen that the significance value of speaking is 0.010, it can be concluded that 0.010 < 0.05 which can be said that the data is not normally distributed. While the data for critical thinking is 0.597. These results show that the significance value of critical thinking > 0.05, it can be concluded that the critical thinking data is normal. It found that the data for critical thinking skills are normally distributed, while the data for speaking skills are not normally distributed. Because one of the data in this study is not normally distributed and refers to Tanner (2012) if one of the data not normally distributed it is permissible to use other alternatives such as spearman rho.

Correlation testing is used to examine whether there is a significance correlation between two variables. Based on the result of normality testing, that one of the data is not normally distributed, therefore the spearman's rho is used to examine the correlation. Furthermore, Schober et al., (2018) said that for nonnormally distributed continuous data, for ordinal data, or for data with relevant outliers, a Spearman rank correlation can be used as a measure of a monotonic association. So based on the explanation and to avoid errors in the correlation test, the Spearman rho as an alternative to perform a correlation test rather than other correlation testing. Based on Spearman's Rho, it can be said that variables have significance if the significance value is more than 0.05 (sig>0.05). The result can see in the table below.

Table 8. The Result of Correlational Test

			Speaking	CriticalThinking
Spearman's rho	Speaking	Correlation Coefficient	1.000	.209
		Sig. (2-tailed)	.	.494
		N	13	13
	CriticalThinking	Correlation Coefficient	.209	1.000
		Sig. (2-tailed)	.494	.
		N	13	13

Based on table 8, it can be seen that, the value of the rho coefficient is 0.209 and sig. the score is 0.494. If this result is compared with the confidence level that is 0.05 so that sig. score 0.494 > 0.05. it can be concluded that there is no significant correlation between two variables. The coefficient score is 0.209 which is resided

between 0.00 – 0.25, that means the correlation is very weak. Therefore, the correlation between critical thinking and speaking skills is negligible.

Discussion

The effectiveness of students' speaking abilities is greatly influenced by their critical thinking abilities. Applying and developing critical thinking abilities is essential for kids studying English. According to Sarigoz (2012), a critical thinker demonstrates a number of traits, including controlled thinking, active thinking, attentive assessment of the data and conclusions, openness to change and development, and self-reflection. These standards delineate the attributes that facilitate proficient critical thinking in language acquisition and oral communication assignments.

Ennis (2011) identifies four critical thinking elements: inference, reason, situations, and overview. Some students excel in inference, while others focus on overview elements. Fulcher (2014) highlights the importance of speaking test aspects such as accent, grammar, vocabulary, fluency, and comprehension. For the speaking test, it was found that the result in the fluency aspect is that a few students still have to make an effort for a period of time to speak their ideas, although sometimes they still try to find the word that they want to say. One way of improving speaking fluency is to read as much English as possible. Not only will reading in English improve your vocabulary, but it will also improve your syntax and grammar. Critical thinking requires the students to read as much as possible in order to find information related to the topic that was given to them before and make a good argument for their speech. To improve speaking fluency, students should read extensively to improve vocabulary, syntax, and grammar. Critical thinking helps students find relevant information and make strong arguments for their speeches. Pronunciation is another aspect influenced by a student's mother tongue, affecting their ability to understand their speech. However, some students show improvements in accuracy, such as fewer grammatical errors and better pronunciation. The discussion of research results and data analysis is a crucial part of research articles, presenting the results and data analysis processes.

Based on the findings mentioned above, it can be concluded that the results of this study, which indicate no correlation between critical thinking skills and speaking ability among the first semester Diploma 4 students health promotion in Sari Mulia University, differ from the existing theories. Several factors, such as mindset, learning approaches, and the research location, may have contributed to this disparity. Fisher (2011) emphasized that critical thinking is an active process rather than a passive one. It requires students to actively engage in problem-

solving, finding solutions, analyzing information, and effectively conveying and defending

The researcher assumed there are some reasons why alternative hypothesis (Ha) proposed in this study is rejected, while the null hypothesis (Ho) is accepted can be happened: 1) The instrument used is weak to measure the effect of students' critical thinking with speaking skills which results in scattered data that might not be normally distributed. 2) When the questionnaire distributed to the students, they might be confused with the statement. The students could not understand the sentences in the questionnaire, so they did not answer them maximal or became misunderstanding in answering the sentences. 3) Next, because of the time distributing the questionnaire was directly with the time in speaking testing, it may make the students feeling tired or exhausted when they took the test. 4) It can also be influenced by the population and the subjects had small numbers.

Further research on the correlation between critical thinking and speaking skills is essential to gain a deeper understanding of this complex relationship. To overcome the current limitations in this area, future studies should aim to conduct thorough and comprehensive analyses of students' critical thinking abilities. Researchers are encouraged to explore a wider range of assessment methods that can effectively evaluate various aspects of speaking skills. By incorporating diverse speaking tests or reliable questionnaires that focus on speaking proficiency, researchers can gather more reliable and robust data. This approach will ultimately lead to a more accurate depiction of how critical thinking and speaking skills are interconnected.

CONCLUSION

Despite the fact some related research shows a strong connection between speaking skills and critical thinking in students, it's important to consider the limitations of generalizing these findings. Factors like the overall proficiency of students in spoken English and the specific conditions under which speaking tests are conducted can significantly influence the outcomes. This highlights the complexity of assessing the relationship between speaking abilities and critical thinking on a broader scale. The analysis of the total calculation of these scores indicates that there is no positive correlation between the two variables. This finding suggests that the performance in critical thinking does not necessarily predict the performance in speaking tests for these students. Further research on the correlation between critical thinking and speaking skills is essential to gain a deeper understanding of this complex relationship. To overcome the current limitations in this area, future studies should aim to conduct thorough and comprehensive analyses of students' critical thinking abilities.

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