

CRITICAL THINKING AND CRITICAL READING COMPREHENSION ACHIEVEMENT: A CORRELATIONAL STUDY

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Abstract:

The study's objectives were to determine (1) whether there was a significant relationship between students' critical thinking and their critical reading achievement, and (2) whether students' critical thinking influenced their critical reading achievement. The study used the correlational research method. The study included 171 students from UPT SMA Negeri 3 Banyuasin's eleventh grade. This study's sample size was limited to 45 students due to the use of a simple random sampling technique. The information was gathered through the use of two tests: critical thinking and critical reading achievement tests. Pearson Product Moment Correlation Coefficient was used to answer the first research problem. Based on the data, it was discovered that there was a significant positive correlation between the students' critical thinking and critical reading comprehension achievement, with the r -obtained (0.764) being greater than the r -table (0.294) and the level of probability (p) significance (sig.2-

tailed) being 0.001 less than 0.05. It means that the higher the level of critical thinking of the students, the better their critical reading achievement. The coefficient of determination (r -square) from the regression analysis was 0.583, implying that the students' critical thinking influenced 58.3% of their critical reading achievement. As a result, the improvement in students' critical thinking skills is accompanied by an improvement in their critical reading comprehension achievement.

Keywords:

Achievement;
Comprehension;
Critical reading;
Critical thinking.

Received: 11 December 2023

Revised: 18 December 2023

Accepted: 30 December 2023

INTRODUCTION

In learning English, there are four skills that students must learn. They are writing, speaking, listening, and reading. Among the four language skills above, Gilakjani and Sabouri (2016) said that reading is the most important among scholarly language abilities. For example, when students read, students will discover a lot of new vocabulary and encouraging their abilities in other aspects such as grammar, speaking and also writing skills. The more written media they read, the wider their understanding of the field they are working on. Patel and Jain (2008) also added that an important component of academic achievement is reading ability.

In fact, reading is not only to find out the information on a text, but also students have to find out the truth of information obtained. The information obtained by students must be examined for validity through critical reading. This is relevant to Singhal's statement (2001) that through reading, students can receive information, ideas, and experiences conveyed in a book. But, if students read critically, they can also understand the implied meaning of what they read and then give an assessment. According to Kadir et al. (2014), if teachers neglect teaching critical reading ability, students will always agree with the opinions of the reading texts given to them and become passive individuals. In short, critical reading will be on the list of considerations as a factor affecting language learning.

Unfortunately, Indonesian people's awareness of the importance of reading is still lacking. Based on data from the National Library (Perpusnas) in 2022, it is stated that the reading habit of the Indonesian people as a whole is 63.9 with a reading duration of 9 hours per week and 4-5 books every three months. In addition, according to research conducted by The Digital Reader (2020), the average reading interest of Indonesian people is in the 16th position from 22 countries in the world. The results of this survey also showed that the number of book publications in Indonesia in 2020 is still low compared to the increasing population of Indonesia. In addition, the result of the survey of the Programme for International Student Assessment (PISA) in 2018 showed that the reading ability of Indonesian students is in the 74th position out of 79 countries in the world. It means that Indonesia is one of the bottom countries that have a low literacy rate.

Concerning this, the researchers have conducted a preliminary study at UPT SMA Negeri 3 Banyuasin. The researcher interviewed an English teacher, the teacher said that his students had less interest in reading English textbooks, they would only read them if instructed by the teacher. Talking about students' critical reading achievement, he said that students' reading achievement was still low, including the ability to understand reading texts

and some students were not satisfied with their reading scores. Then, when the researcher interviewed two students, they revealed that they had difficulties in understanding long paragraphs because they had limited vocabulary. Moreover, they lacked critical thinking and got low motivation in reading. Sometimes, they were too lazy to think about the main idea of the long text given by their teacher and felt bored in doing this activity. Thus, the researcher assumed that there was a problem with the students' critical thinking and critical reading abilities at this school and the low critical reading ability of the students was caused by their critical thinking that is not honed.

Critical thinking is one of the important abilities in learning process. According to Zivkovic (2016), critical thinking is a very important skill for success in the 21st century. Critical thinking is a variation of thinking that has been used as the main goal of learning. The 2013 National curriculum contains a statement mentioning that critical thinking is the main competence in learning (Depdiknas, 2013). Ghanizadeh et al. (2020) mentioned that students constantly receive various kinds of information that require them to think critically. If students have good critical thinking, students will easily understand the explanations given by their teachers. Therefore, applying this ability into the learning process in the classroom must be done to train students to be good at critical thinking.

Some researchers have tried to investigate the relationship between critical thinking and critical reading abilities. Shihab (2011) showed that there is a positive relationship between critical thinking and critical reading. Critical reading is impossible without thinking and critical reading can also be useful as an instrument in increasing critical thinking skills. In the study of Oliveras et al. (2011), it was found that the use of newspapers as a critical reading activity increases critical thinking in science classes. However, one study did not find a significant influence from the discovery learning method by inserting critical reading on students' critical thinking skills (Muttaqin & Sopandi, 2016).

LITERATURE REVIEW

Critical Thinking

One of the higher levels of thinking abilities is critical thinking. According to Watson and Glaser (2012), critical thinking can be defined as the capacity to detect and analyze information before looking for and assessing pertinent data to reach appropriate judgments. Besides, Hassubah (2004) assumed that critical thinking is thinking reflective and reasoned with emphasis on making decisions about what to do and believe. Cottrell (2005) also showed that in the process of critical thinking, we rely on and develop our personal qualities and skills. Furthermore, Halpern (2014) also added that

critical thinking is a cognitive ability used by thoughtful thinkers to make purposeful, reasoned, and goal-directed thinking. Hence, critical thinking is defined as the ability to analyze and evaluate information to get reasonable views or ideas before making decisions about what to do and believe.

The Characteristics of Critical Thinkers

A critical thinker can be identified by looking at the characteristics. Paul and Elder (2008) stated that there are several characteristics of critical thinking. There are as follow: (1). Critical thinkers clearly conclude what are the important questions and problems when receiving information. (2). Critical thinkers seek and collect relevant information using the ideas and knowledge they have. (3). After finding reasonable answers or solutions, critical thinkers test them against relevant criteria and standards. (4). Critical thinkers have an open mind and always accept input from others (5). Critical thinkers discuss answers to questions or solutions to complex problems with other people effectively.

The Aspects of Critical Thinking

According to Starkey (2004), there are five aspects of critical thinking skill: (1). Remembering previous information: the ability to be able to remember previous information, determines intellectual curiosity and the desire to learn to have better insights. (2). Reasoning effectively: the capacity to employ several types of reasoning, such as deductive and inductive according to conditions, can reason effectively, has tolerance for different views and recognizes someone's biases. (3). Using systems thinking: the ability to analyze or understand how the parts of the whole information interact with each other to produce overall judgment results in complex systems without hesitation. (4). Making judgments and decisions: analyze effectively by using reasoning skills to find supporting evidence, assess the evidence, synthesize it, and drawing conclusions based on the most effective analysis. (5). Solving problems: ability to Analyze effectively by applying reasoning skills in finding supporting evidence, evaluating evidence, synthesizing and drawing conclusions based on the best analysis.

Critical Reading

Critical reading means reading carefully and deeply on a text. According to Pirozzi (2003), critical reading is interpreting and evaluating a reading text with the aim of understanding important and unimportant information, separating opinions and facts, and determining the writer's goals. Additionally, Kurland (2000) stated that critical reading means an analytic activity that requires analysis, interpretation, and evaluation of a text. Wang and Gierl (2011) defined critical reading is a high-level understanding from

readers that require logical analysis, questioning attitude, and deducing valuable information of what is read. Pointedly, in an effort to understand and know the writer's implied goals and meanings, students need critical reading ability.

The Characteristics of Critical Reading

Critical reading can be identified easily. Huijie (2010) argued that "checking" is the keyword. When readers read a text critically, they always look for the truth of the text presented. Not only that, they also check the positive or negative an author's statement, check the strengths and weaknesses of the text, and examine which author's point of view should be accepted or rejected. Wang and Gierl (2011) stated that the characteristics of critical reading have been made into three stages, namely first, surface code (literal reading), basic text (basic inference by connecting text), and situational models (making inferences by linking the text and the reader's background knowledge).

The Process of Critical Reading

When reading critically, people ask themselves certain questions to critically analyze the author's ideas. According to Seker and Komur (2008), critical reading is also connected with better levels of thinking according to Bloom's Taxonomy. There are six processes of Bloom's Taxonomy which Anderson and Krathwohl (2001) have revised. They are: remembering, understanding, applying, analyzing, evaluating, and creating.

RESEARCH METHODOLOGY

Research Design

A quantitative method through correlational research design was used in this study to find out the relationship and the influence between the critical thinking and critical reading achievements of UPT SMA Negeri 3 Banyuasin. Creswell (2012) stated that a correlational study is a statistical procedure carried out by researchers to find the relationship between two or more variables.

Population and Sampling

The population of this study was all of the 11th grade students of UPT SMAN 3 Banyuasin in the academic year of 2022/2023 which consisted of 5 classes with a total of 171 students. In selecting the sample, the researcher used a simple random sampling technique. The researcher took 25% from each class by determining a list of attendance numbers randomly so that the sample was 45 students.

Data Collection and Analysis

In collecting the data, the researcher used multiple-choice test. The critical thinking test developed by Starkey (2004) was used to collect data on the students' critical thinking skill which has been validated and the results showed that from 30 items there were 26 items valid. Meanwhile, the critical reading achievement test used to collect data on the students' critical reading achievement which has been validated and the results showed that from 40 items there were 30 items valid. Then, the data from students' critical thinking and critical reading achievement were taken from the number of correct answers (the correct answer will score 1 and the incorrect answer will score 0) then divided by the number of questions then multiplied by 100.

Prerequisite Analyses

Normality Test

The researcher applied Kolmogorov-Smirnov test to see the normality by using SPSS. The data is declared normal if the p-value is greater than 0.05 (sig. value > 0.05). The results showed that the data from each variable were all normal (sig. 0.093 > 0.05) and appropriate for data analysis.

Table 1
The Results of Normality Test

One-Sample Kolmogorov-Smirnov Test	
	Unstandardized Residual
N	45
Asymp. Sig. (2-tailed) ^c	.093

Linearity Test

The deviation from linearity between critical thinking and critical reading was 0.486 and higher than 0.05 (sig. 0.486 > 0.05) which the result was linear.

Table 2
The Results of Linearity Test

ANOVA Table		Sig.
Critical Reading Achievement *	Deviation from Linearity	.486
	Critical Thinking	

FINDING AND DISCUSSION

FINDING

The Results of Students' Critical Thinking

Out of 45 students, there were 2 students (4.4%) were categorized very good at critical thinking, 20 students (44.4%) were categorized good at critical thinking. 17 students (37.8%) were categorized sufficient, and 6 students (13.3%) were categorized poor at critical thinking. Meanwhile, there was no very low level of critical thinking from the students test results. It could be stated that most of the students' critical thinking skills were categorized good at critical thinking.

Table 3
The Distribution of Critical Thinking

Interval	Categories	Students	Percentage
80-100	Very good	2	4.4%
70-79	Good	20	44.4%
60-69	Sufficient	17	37.8%
50-59	Poor	6	13.3%
0-49	Very poor	0	0%
Total		45	100%

The Results of Students' Critical Reading Achievement

The results showed that there were 9 students (20%) in the good category, 30 students (66.7%) in the sufficient category, and 6 students (13.3%) were included in the lack category. Meanwhile there was no very good category of critical reading from the students test results. From these data it could be concluded that most of their critical reading achievements were in the sufficient category.

Table 4
The Distribution of Critical Reading Achievement

Interval	Categories	Students	Percentage
86-100	Very good at critical reading	0	0%
76-85	Good at critical reading	9	20%
56-75	Sufficient in critical reading	30	66.7%
10-55	Lack of critical reading	6	13.3%
Total		45	100%

From the result analysis above, the Pearson correlation coefficient (0.764) was higher than r-table (0.294). Then, the level of probability (sig.2-tailed) was 0.001. It means that 0.001 was lower than 0.05. It could be concluded that the alternative hypothesis (H_a) was accepted and null

hypothesis (H0) was rejected. Based on the interval coefficient by Cohen et al. (2007), the correlation coefficient 0.764 indicated that the level of correlation between the variables is strong correlation.

Relationship Between Students' Critical Thinking and Their Critical Reading Achievement

Pearson Product Moment Correlation Coefficient was performed to find out the relationship between variables. The results showed a positive relationship between the students' critical thinking and their critical reading achievement. Table 5 below provides a summary of the Pearson Product Moment Correlation Coefficient's findings.

Table 5
Correlation Between Critical Thinking and Critical Reading Achievement

		Correlation	
		Critical Thinking	Critical Reading
Critical Thinking	Pearson Correlation	1	.764**
	Sig. (2-tailed)		<.001
	N	45	45
Critical Reading	Pearson Correlation	.764**	1
	Sig. (2-tailed)	<.001	
	N	45	45

From the result analysis above, the Pearson correlation coefficient (0.764) was higher than r-table (0.294). Then, the level of probability (sig.2-tailed) was 0.001. It means that 0.001 was lower than 0.05. It could be concluded that the alternative hypothesis (Ha) was accepted and null hypothesis (H0) was rejected. Based on the interval coefficient by Cohen et al. (2007), the correlation coefficient 0.764 indicated that the level of correlation between the variables is strong correlation.

Influence of the Students' Critical Thinking and Their Critical Reading Achievement

To know the percentage of how much critical thinking had influenced on critical reading achievement, R-Square was obtained. The result of Model Summary is shown in Table 6 below.

Table 6
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.764 ^a	0.583	0.573	5.669

The result of the analysis revealed that the R Square was 0.583. It means that the students' critical thinking influenced in the level of 58.3% toward critical reading and 41.7 % is defined or influenced by other factors. In sum, the students' critical thinking influenced their critical reading achievement. It indicated that the higher critical thinking the students had, the higher their critical reading achievement would be.

DISCUSSION

To strengthen the value of this study, an interpretation was made based on the results of data analysis. The data from students' critical reading achievement showed that no one was at a very good critical reading achievement level. This might happen because the students acted as passive learners. This is in line with what was stated by Wallace (2003), students did not get sufficient exposure to experience critical reading. Rarely do they have the intention to read without instruction from their teacher. In addition, according to Fahim and Ahmadian (2012), rarely is critical reading systematically and clearly taught in an educational setting. As a result, students are unable to master one of the fundamental learning skills such as remembering, understanding, applying, analyzing, evaluating and creating.

Based on the findings, the results of the Pearson Product Moment Correlation found that there was a positive correlation between the students' critical thinking and their critical reading achievement. In addition, the results of the Coefficient of Determination (R Square) found that the students' critical thinking influenced 58.3% to their critical reading achievement. This is in line with Putra's statement (2017) that the higher level of students' critical thinking skill, the easier it is for them to understand the text, while the lower the level of their critical thinking skill, their reading comprehension tends to be low as well. This is likely due to the skills involved in critical thinking which assist them in achieving critical reading. According to Starkey (2004), there are several aspects that affect students' critical thinking skills, namely the ability to be able to remember previous information, the ability to use various types of reasoning such as deductive and inductive according to conditions, the ability to analyze and apply how the parts of the whole interact with each other to produce overall assessment results, the ability to make judgments and decisions and the ability to solve problems. All of these aspects of ability make a strong influence to achieving good critical reading achievement.

CONCLUSION AND SUGGESTION

CONCLUSION

Based on the findings and discussion of the research, several conclusions could be drawn. First, there was a significant relationship between the students' critical thinking and their critical reading achievement at UPT SMAN 3 Banyuasin. This result means that the higher level of the students' critical thinking, then the better their critical reading achievement. Whereas, the students who have poor critical thinking skill tends to have poor critical reading achievement as well. Second, the students' critical thinking influenced 58.3% to their critical reading achievement at UPT SMAN 3 Banyuasin. It means that the students who have good at critical thinking and applied it effectively in learning process, they will have good at critical reading achievement.

SUGGESTIONS

First, the researcher would like to suggest English teachers to improve students' CT skills with various exercises because it can help them develop their cognitive level. Teachers can accustom students to find relevant facts and information they read and provide comments on their reading. Second, students are expected to continue practicing to achieve reading goals and the benefits obtained in studying the material. if students have good critical thinking and vocabulary knowledge, they will have better critical reading. The last, for future researchers should have more innovations in doing the similar study so the result can deeply achieve contributions for education.

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