

**How to Cite (APA Style):**

Muthoharoh, R. J., & Hartono. (2022). Enhancing students' critical thinking skills in reading class using the directed reading thinking activity (DRTA) teaching strategy. *EduLite: Journal of English Education, Literature, and Culture*, 7 (2), 224-232. <http://dx.doi.org/10.30659/e.7.2.224-232>

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## **Enhancing students' critical thinking skills in reading class using the directed reading thinking activity (DRTA) teaching strategy**

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Received:  
02 January 2022

Revised:  
20 August 2022

Accepted:  
28 August 2022

Published:  
31 August 2022

### **Abstract**

*This research aims to analyze the effectiveness of the DRTA strategy in enhancing students' critical thinking skills in English reading. It applied a pre-test and post-test quasi-experimental design. The samples of this study were 37 students of the XI-MIPA of Madrasah Aliyah Miftahul Huda Tayu. The instrument for collecting data was a test. It was six questions of analytical exposition text presented in an essay-type form. A t-test was used to analyze the mean score difference between the control and experiment groups. After treatment, there was an improvement in students' critical thinking skills. The value of  $t_0$  is 2.274 and  $t_{table}$  is 2.030. The result of the computation was  $2.274 > 2.030$ , while the sig. (2-tailed) was  $0.029 < 0.05$ . There was a significant difference in the students' critical thinking skills between those who were taught reading using the DRTA strategy and those who were not. The DRTA strategy effectively enhanced the student's critical thinking skills in reading.*

**Keywords:** *critical thinking skill; DRTA; reading class*

### **INTRODUCTION**

Critical thinking is vital in someone's life and has become an important goal of education worldwide (Asgharheidari & Tahri, 2015). It plays an essential role (Shamboul, 2022) as it promotes creativity and improves language and presentation. Students with good critical thinking skills know how to think clearly and systematically. This will lead them to better performance and accomplishment. With critical thinking, someone can take responsibility for his thinking and develops knowledge to analyze and assess what he has thought. As critical thinking skills are not innate (Patel, 2013), these skills need to be taught. Teaching critical thinking helps students to encounter problems in both their education and real lives (Malmir & Shoorcheh, 2012). Therefore, teachers must include students' critical thinking perspectives in the courses.

In the context of EFL, teaching critical thinking skills can be conducted while teaching reading. Wallace (2003) suggests that teaching critical thinking

skills in reading will give students the ability to criticize the logic of the text. Students will be able to develop competency in analyzing data and asking the right questions about them so that they can develop a better understanding of the real issues presented in the text. Becoming critical readers helps students to realize that reading is a process rather than a product (Kadir et al., 2014). An individual with the ability to think critically can actively question the issues at hand, collect relevant information, and propose correct conclusions correctly (Sheikhzadeh & Khatami, 2017).

Critical thinking is not instant knowledge to deliver to students. Teachers and students have an essential role in developing critical thinking practices in the classroom. Alqatanani (2017) emphasizes that teachers of English as a foreign language must be able to manage students' behaviors and encourage them to be active and successful students. In addition, they must be able to effectively develop their students' critical thinking skills by making accurate and logical interpretations, analyses, evaluations, inferences, explanations, and self-regulation (Facione, 2011).

Lacks of understanding of analysis and critical thinking make students passive. This leads to their inability to utilize learning opportunities in class. The failure to think critically will impede them from acquiring the knowledge and transforming it into uses that give benefits to lives (Flores et al., 2012). Furthermore, Nugraha et al. (2017) suggest that one of education's important objectives is to develop students' critical thinking skills through learning programs and activities that stimulate high-order thinking skills (HOTS) principles. An effective teaching strategy is, therefore, very necessary.

In the context of teaching reading, the directed reading thinking activity (DRTA) is one of the possible options. DRTA strategy can help students enhance critical thinking skills (Stauffer, 1969). El-Koumy (2013) suggests that DRTA is a strategy that can train students to be active and independent in using higher critical thinking skills. DRTA strategy enables students to connect related text elements, confirm the prediction, and make a logical conclusion. However, in the Indonesian context, studies on the effectiveness of the DRTA strategy on critical thinking enhancement are still limited. The study of Sefrianah et al. (2018) even found inconsistent results. DRTA strategy was effective in enhancing the junior and senior high school students' critical thinking skills, but it was not effective in enhancing the critical thinking skills of elementary school students. More research is, therefore, necessary.

Readence & Tierney (2005) suggest that the DRTA strategy is implemented in 3 sequential steps. They are predicting, reading, and finally, proving the prediction. In predicting stage, students reflect on their opinions about the text by predicting the answers to questions given by the teacher. Through this activity, students can determine their predictions quickly. In this stage, the teacher plays a role in activating students' background knowledge to make and defend predictions. They may work individually or in a group. As the discussion goes on, students exercise their critical thinking skills.

In the second step, students read a segment of the story. They are asked to support their predictions by looking for information provided in the text. Finally, in the last step, students engage in a discussion about what they have

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read. Confirmation, rejection, or refinement of predictions are made and justified in this step. The teacher plays a vital role in this step by refining, extending, or deepening his students' reading and thinking processes.

In this way, it is expected that DRTA can train students to think critically as they go through the cycles of predicting, reading, and proving/disproving their prediction. The implementation of this strategic process develops students' reading comprehension skills and, at the same time, enhances higher-order thinking skills (HOTS). Crawford (2005) suggests that teaching using this strategy brings benefits to students by making students active and thoughtful, allowing them to monitor their understanding of the text, and strengthening reading and critical thinking skills.

Besides facilitating students to enhance critical thinking skills, previous research found that the DRTA strategy positively impacts students' attitudes in class (Erliana, 2011). The students could be more confident participating in learning activities and achieve higher scores. It improves students' reading comprehension significantly. In his experiment, Nerim (2020) found that the students who were taught reading comprehension using the DRTA strategy could achieve a higher mean score on the reading comprehension test than the students who were taught reading using another method.

For the reasons above, this study was conducted. It aimed to determine the DRTA strategy's effectiveness in enhancing students' critical thinking skills in English reading. It was hypothesized that the DRTA strategy could enhance students' critical thinking skills. There would be a significant difference in the mean score of the critical thinking test between the students who were taught reading using the DRTA strategy and those who were taught reading using another teaching strategy. This study was important as many Indonesian students face difficulties in English reading (Jayanti, 2016), and these difficulties negatively affect the learning process. The causes of poor reading competence are motivation, prior knowledge, and vocabulary (Nanda & Azmy, 2020).

Secondly, many students lack critical thinking skills. Several studies have shown that Indonesian students' critical thinking abilities are still lacking compared to students from neighboring countries such as Malaysia and Singapore (Samanhudi & Linse, 2019). The ability to distinguish critical thinking skills from other intellectual skills, such as understanding, memorizing, and applying, is often blamed for the cause (Pertwi et al., 2021). To overcome this backwardness, EFL teachers can help by including critical thinking skill enhancement in their teaching practices.

Thirdly, students need strategies that can stimulate their critical thinking activities. Asgharheidari & Tahriri (2015) suggest that teaching critical thinking to students is not an easy task, moreover in most traditional classes where teachers are the centers of the teaching and learning process. Meanwhile, modern education places students at the center and becomes the focus of learning. In this case, the language teacher has an important role to play. Choosing an appropriate teaching strategy is, therefore, essential.

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## **METHODS**

The study adopted a quantitative approach of pre- and post-test quasi-experimental research. Quantitative research uses a type of information of statistical and numerical data to test the hypothesis. In this research design, there are two groups; one is the experimental group, and the other is the control group. A pre-test was conducted to determine whether the two groups had equal levels of critical thinking skills. While the post-test was used to determine the effectiveness of the treatment (Gay et al., 2012, p. 267). In this research design, the experimental group received treatment, in this case, the implementation of the DRTA strategy, while the control group received a regular strategy.

### **The participants**

The subjects of this study were the eleventh graders of Madrasah Aliyah Miftahul Huda Tayu in the 2021/2022 academic year. In connection with the condition of the school environment at that time, when the covid-19 pandemic was still spreading and teaching and learning activities were still conducted mostly online, the school permitted the researcher to do the research with only 1 class. Therefore, the researcher divided the class into two groups; one group became the experimental group (19 students), and the other became the control group (18 students).

### **The instrument**

A test was used to collect the data. It consisted of six questions in essay-type items following the California Critical Thinking Skills Test from Facione (1998). Before testing the hypothesis, the normality test of Kolmogorov-Smirnow and homogeneity tests of Levene's formula were run. All the analyses were done using SPSS version 23. The analysis found that the Kolmogorov-Smirnov pre-test score of the experimental group was 0.126 with Sig. 0.200 > 0.05, while the control group pre-test score was 0.152 with Sig 0.200 > 0.05. The result of the Kolmogorov-Smirnov post-test scores of the experimental group was 0.127 with Sig. 0.200 > 0.05, while the control group post-test score was 0.168 with Sig. 0.196 > 0, 05. They show that the data from all samples were homogeneous and normally distributed. To test the hypothesis, an independent sample t-test was run. Nunan and Bailey (2009, p. 389) suggest that the t-test is one widely used statistic for determining significant differences between two means. This type of test still works well with small data sets.

### **The treatment**

The researcher acted as the teacher of the treatment group, while the school English teacher taught the control group. The treatments were implemented in several meetings. The topic for the first treatment was analytical exposition text. The research started the learning activities by giving quizzes about the topic of the text. It aimed to build students' knowledge about it. After that, the researcher played the video explanation of the definition, social function, and generic structure of the analytical exposition text. Furthermore, the teacher explained the definition and the procedures of the DRTA strategy. The students then worked in a group of three to four members. Each group was

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given an analytical exposition text, and students were to explore the ideas in the text by using the DRTA strategy. To stimulate students' critical thinking skills, the researcher asked students to work in groups and discuss the questions. Next, the students were randomly asked to read their answers. To assess students' critical thinking skills, the researcher asked students individually to answer questions. A review and evaluation of the learning process were given at the end of the class. The subsequent treatments followed the model and procedure, but students were given different topics.

**RESULTS AND DISCUSSION****The results**

The study's first result was the pretest scores of the participants. The descriptive statistics analysis shows that the experimental group's mean score was 35.32. The standard error of the mean was 2.735, the median score was 35.00, and the standard deviation was 11.921. While for the control group, the mean score was 37.44. The standard error was 2.954, the median score was 38.00, and the standard deviation was 12.533. As there was a difference in the mean scores, a t-test was run. The value of  $t_0$  and significant value (Sig) were used to interpret the result of the t-test. The value of  $t_0$  was 0.529, and the  $t_{table}$  was 2.030. The result of computation was  $0.529 < 2.030$ , while the sig. (2-tailed) of  $0,600 > 0, 05$ . It means that  $H_0$  is accepted. There was no significant difference in the critical thinking skills of the two groups.

The result of the post-test is presented in Table 1. It shows that the mean score of post-tests in the experimental group was 56.68, while the mean score of post-tests in the control group was 50.50. The students in the experimental group who were taught reading using the DRTA strategy scored higher in critical thinking than those in the control group who were not taught with the DRTA strategy.

Table 1. Descriptive statistics of posttest scores

		Exp. Group	Contr. group
N	Valid	19	18
	Missing	0	1
Mean		56.68	50.50
Std. Error		1.646	2.189
Median		58.00	50.00
Std. Deviation		7.173	9.288

To prove the hypothesis, a t-test of the post-test scores was run. Table 2 presents the results. It is to prove the effectiveness of the implementation of the DRTA strategy to enhance the eleventh graders' critical thinking skills in reading. Interpretation of the data was made by focusing on the value of  $t_0$  and significant value (Sig). The value of  $t_0$  is 2.274, and the  $t_{table}$  is 2.030. The result of the computation is  $2.274 > 2.030$ , while the sig. (2-tailed) is  $0.029 < 0.05$ . It means that  $H_0$  is rejected. There was a significant difference in the eleventh graders' critical thinking skills of the eleventh graders of Madrasah Aliyah Miftahul Huda Tayu in the 2021/2022 academic year between those who were taught English reading by using the DRTA strategy and those who were not. DRTA strategy was proven effective in enhancing the students' critical thinking skills.

Table 2. The Independent sample t-test of the posttests

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error	95% confidence interval of the difference	
								Lower	Upper
Equal variances assumed	2.292	.139	2.274	35	.029	6.184	2.720	.663	11.705
Equal variances not assumed			2.258	31.99	.031	6.184	2.739	.606	11.763

## Discussion

The study's objective was to determine the effectiveness of the DRTA strategy in reading class to enhance students' critical thinking. There were several steps required for conducting this research. The first step was giving a pre-test to the students. The second was providing treatment for the experimental group. The treatment here was teaching reading by using the DRTA strategy. The material was about analytical exposition text. The last step was giving a post-test. It was aimed to measure the students' critical thinking skills in both classes.

The improvement of students' critical thinking skills could be seen in their post-test. The students in the experimental group outperformed their friends in the control group. The output data of the t-test shows that  $t_o = 2.274$  is bigger than  $t_{table} = 2.030$ , which means that the alternative hypothesis ( $H_a$ ) is accepted, and the null hypothesis ( $H_o$ ) is rejected. The finding supports the study of Patel (2013) and Alqatanani (2017) that teaching programs developed to enhance students' critical thinking skills could be effective. Critical reading programs can improve critical thinking skills in general. Therefore, teachers need to design teaching and learning activities with critical thinking enhancement perspectives. DRTA strategy with three phases of predicting, reading, and proving prediction can stimulate students to activate their critical thinking.

This study also supports El-Koumy (2013) and Erliana (2011) that DRTA can make students more active and independent in learning. During the treatment, the researcher witnessed the students' motivation and enthusiasm for learning. Working in groups helped them enjoy the lesson. Interactions among the members of the group further activated their critical thinking skills. Arguments among group members as they made predictions of the topic presented in the reading indicated that the students were cognitively involved in the learning process.

However, some problems were also evident. Some students had difficulties expressing their predictions about the contents of the text. They had ideas in Bahasa Indonesia as their native language but did not know what to say in English. This was due to the lack of vocabulary. This confirms the

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studies of Jayanti (2016) and Nanda & Azmi (2020), which found that vocabulary mastery is the problem mostly faced by Indonesian students in English reading comprehension. Therefore, vocabulary enrichment should become an important focus of teaching and learning for Indonesian students in which English is a foreign language.

**CONCLUSION**

After conducting the study, it can be concluded that the DRTA strategy helps students enhance their critical thinking skills. Through predicting, reading, and proving steps, students exercised their cognitive ability to be critical. Group work further helps them develop arguments and contra arguments so that interactions among class members occur. This is a good way to make the students the center of learning. DRTA strategy effectively enhanced the critical thinking skills of the eleventh graders of Madrasah Aliyah Miftahul Huda Tayu in the 2021/2022 academic year. However, a lack of vocabulary prevents them from expressing ideas fully in English. Therefore, vocabulary enrichment should also become a priority.

**AUTHOR STATEMENT**

**Author 1:** Conceptualization, methodology, treatment, data collection, original draft. **Author 2.:** Conceptualization, supervision, discussion, draft revision & proofreading.

**ACKNOWLEDGEMENTS**

This study was part of the final project of the first author's undergraduate degree in the English Education Study Program. She would like to thank the English Education Study Program and the Faculty of Languages and Communication Science Universitas Islam Sultan Agung for their permission and support.

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**Conflict of Interest Statement:** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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