

Using Hots (Higher Order Thinking Skills) to Improve Students Critical Reading In English Class

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Abstract

Background:

In language classes, there are several skills that must be mastered by students, especially in English, namely reading ability. Based on the information obtained, there are still many students who experience difficulties in practicing reading or answering reading text questions in English. In this study HOTS (Higher Order Thinking Skills) was used to train and assist students in answering questions on reading texts in English, especially to train students' critical reading. According to Kwangmuang et al (2021) HOTS is considered as the ability to analyze, synthesize, evaluate, develop skills, estimate, generalize, and make thoughts, make decisions, set goals, think critically and systemically. These activities are very suitable for English lessons in class.

Methodology:

The researcher applied a pre-experimental research design with quantitative data, which involved pre-test and post-test to measure students' ability to read critically in English class at SMK Istiqomah Muhammadiyah 4 Samarinda. The researcher used a group pre-test and post-test to analyze the application of HOTS questions in improving students' reading skills.

Findings:


Based on the results of the data obtained and the results of the analysis, it was found that the HOTS was effective in improving student critical reading

Conclusion:

Based on the results of research that has been done by processing data in the form of pretest and posttest scores, it can be seen that there is a significant influence on the application of HOTS in improving students' critical reading skills, which can be seen from the increase in student scores before and after being given treatment. In the results of the two tests there was an increase in the average pretest score from 61.33 to 85.00 in the posttest average score. The results of data analysis show sig. (2 tailed) score less than 0.05, which means the hypothesis can be accepted. This statement is also supported by the results of the analysis using SPSS with the Paired T-Test and one sample test as well as from related previous researchers.

Originality:

The reading material contained in the test questions to train and improve students' critical thinking skills is highly considered. If it is not appropriate, there will be failures in the learning and teaching process. In this study using HOTS there was success for students in increasing their critical reading, especially in English lessons.

Keywords	: <i>HOTS; Critical Reading; Reading Skill</i>
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1. INTRODUCTION

The success of students' learning in a class can be seen based on the value or achievement of the competencies that students have achieved. One way people see these achievements is by giving students tests. One particular test given in the school is the HOTS type question. HOTS is a high-level question that requires students to think critically, especially in language classes, HOTS can help improve reading skills and understand the problem in context. Higher Order Thinking Skill (HOTS) is the ability to think strategically and use information to solve problems, analyze arguments, negotiate or make predictions.

HOTS past studies are considered the ability to research, connect, evaluate, develop skills, measure, summarize and think, make choices, set goals, basic and fundamental thinking. Several previous studies have shown that HOTS combines two components such as basic and inventive reasoning skills Plan (2014). According to Sulaiman et al (2017), HOTS requires students to have an intelligent reasoning attitude, sound reasoning and thinking skills.

2. METHOD

Researcher takes quantitative research because researcher wants to prove something based on the results of the test results which are then concluded Quantitative research is defined as the systematic investigation of phenomena by collecting quantitative data and performing statistical, mathematical, or computational techniques. Quantitative research collects information from existing and potential customers using a sampling method and sends online surveys, online polls, questionnaires, and tests, the results of which can be described in numerical form. After the emergence of these numbers, can decide, determine and predict the future of a phenomenon or a problem under study. In quantitative research methods, a researcher designs a research framework, analyzes, and quantifies the relationship between the variables Creswell (2013). In this study, researchers used a quantitative approach

to analyze data. In this study, researchers used a quantitative approach to analyze data. The researcher applies a pre-experimental research design, which involves a pre-test and post-test to measure students' ability in critical reading in English class at SMK Istiqomah Muhammadiyah 4 Samarinda. The researcher chose class X students at SMK 4 Istiqomah Muhammadiyah. The technique used in this research is a test technique, where data collection is carried out by researchers by giving HOTS questions or exams according to the English subject matter of the students who are sampled. Data analysis techniques can be used to determine whether the objectives of the research conducted have been achieved and proven effective. Researchers obtained data based on testing the effect of treatment in the form of normality test of data distributors and initial ability difference test (T test) using the one group t test technique. After collecting pre-test and post-test data, the researcher calculated it using SPSS with Paired Sample T Test analysis. After all the data was collected, an analysis was carried out to find out whether the application of HOTS questions had a good and effective impact on improving students' critical reading skills. Hypothesis testing is intended to see whether the hypothesis is accepted or not to test the hypothesis. The t test was carried out at a significance level of 0.05 ($p < 0.005$), meaning that if $\text{sig (2-tailed)} > 0.05$ then there is a significant difference before and after being given treatment and it means that the hypothesis is accepted (H_a Rejects H_0).

3. FINDINGS AND DISCUSSION

Researchers collected data by giving a test to 30 tenth grade students. The tests that the researchers gave were pre-test and post-test. This instrument was conducted to determine the impact of using HOTS to improve students' critical reading skills. The researcher explained the difference in the average scores obtained by students between the results of the pre-test and post-test and the sig (2-tailed) score to determine whether or not the hypothesis testing was acceptable. Researchers collected data by giving a test to 30 tenth grade students. The tests that the researchers gave were pre-test and post-test. This instrument was conducted to determine the impact of using HOTS to improve students' critical reading skills. The researcher explained the difference in the average score obtained by the students between the pre-test and post-test results and the sig (2-tailed) score to determine whether or not the hypothesis testing was acceptable. Researchers spent 2 week to collect and obtain data :

3.1 Meeting 1

The results from the meeting 1, the data showed that the average score for the pre-test was 61.33 and after the researchers gave the treatment in the form of HOTS, the average score increased to 85.00 for the post-test results. The pre-test and post-test questions contain

reading material about related subject matter which consists of 20 multiple choice questions. Based on the data above, the use of HOTS can help students learn to improve reading and critical reading skills. From Paired sample T-Test of Pre-test and Post-test , the score (2-tailed) for the pre-test and pot-test is $0.00 < 0.05$. which means sig. (2-tailed) score less than 0.05. The research results show that the hypothesis can be accepted. Next is the one sample t-test, which aims to see if there is a difference in the population mean. If (2-tailed) < 0.05 then the hypothesis is proven meaning that H_0 is rejected and H_a is accepted. Conversely if (2-tailed) > 0.05 then the hypothesis is proven meaning that H_0 is accepted and H_a is rejected. And the last is T-Test score has a homogeneous variance and is declared normal, so from the table above it is known that the value (2-tailed) in the pretest and posttest data is 0.000 so that it can be interpreted that the value (2-tailed) is 0.000. tailed) the data is less than 0.05, it can be concluded that the research hypothesis is proven, which means H_0 is rejected and H_a is accepted. In conclusion, there is a significant difference between the results before and after being given treatment in the form of HOTS questions.

3.2 Meeting 2

The results from meeting 2, that the average score for the pre-test was 66.00 and after the researchers gave the treatment in the form of HOTS, the average score increased to 86.33 for the post-test results. The pre-test and post-test questions contain reading material about related subject matter which consists of 20 multiple choice questions. Based on the data above, the use of HOTS can help students learn to improve reading and critical reading skills. The score (2-tailed) for the pre-test and pot-test is $0.00 < 0.05$. which means sig. (2-tailed) score less than 0.05. The research results show that the hypothesis can be accepted. Next is the one sample t-test, which aims to see if there is a difference in the population mean. If (2-tailed) < 0.05 then the hypothesis is proven meaning that H_0 is rejected and H_a is accepted. Conversely if (2-tailed) > 0.05 then the hypothesis is proven meaning that H_0 is accepted and H_a is rejected. Based on the one sample T-Test test has a homogeneous variance and is declared normal, so from the table above it is known that the value (2-tailed) in the pretest and posttest data is 0.000 so that it can be interpreted that the value (2-tailed) is 0.000. tailed) the data is less than 0.05, it can be concluded that the research hypothesis is proven, which means H_0 is rejected and H_a is accepted. In conclusion, there is a significant difference between the results before and after being given treatment in the form of HOTS questions.

Table 1 (One- Sample Test Meeting 1)

One-Sample Test						
Test Value = 0						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
pre-test	25.340	29	.000	61.33333	56.3831	66.2836
post-test	61.722	29	.000	85.00000	82.1834	87.8166

Based on research data in, the one sample T-Test test has a homogeneous variance and is declared normal, so from the table above it is known that the value (2-tailed) in the pretest and posttest data is 0.000 so that it can be interpreted that the value (2-tailed) is 0.000. tailed) the data is less than 0.05, it can be concluded that the research hypothesis is proven, which means H_0 is rejected and H_a is accepted. In conclusion, there is a significant difference between the results before and after being given treatment in the form of HOTS questions.

Table 2 (One- Sample Test Meeting 2)

	One-Sample Test						
	Test Value = 0						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference		
Lower					Upper		
PRE TEST	34.852	29	.000	66.00000	62.1269	69.8731	
POST TEST	78.711	29	.000	86.33333	84.0900	88.5766	

Based on research data, the one sample T-Test test has a homogeneous variance and is declared normal, so from the table above it is known that the value (2-tailed) in the pretest and posttest data is 0.000 so that it can be interpreted that the value (2-tailed) is 0.000. tailed) the data is less than 0.05, it can be concluded that the research hypothesis is proven, which means H_0 is rejected and H_a is accepted. In conclusion, there is a significant difference between the results before and after being given treatment in the form of HOTS question

Researchers collected data during two week. The research subjects were students of class X-TKRO SMK 4 Istiqomah Muhammadiyah 4 Samarinda. At the first meeting with the topic of reading ordinary material, the average score obtained by students for the pre-test was 61.33 and after the researchers gave treatment using HOTS questions related to learning topics, the average value increased to 85.00. the second meeting with the different topic of reading ordinary material, the average score obtained by students for the pre-test was 66.00 and after the researchers gave treatment using HOTS questions related to learning topics, the average value increased to 86.33. for the end. -test scores. -test. sig. (2-tailed) pretest and posttest is $0.00 < 0.05$, meaning that the hypothesis can be accepted because sig. (2-fish) less than 0.05. The results of the one sample T-test data from the two meetings have homogeneous variants of the pretest and posttest scores, which are both 0.000. sig. (2-tailed) data is less than 0.05 so it can be concluded that there is a significant difference in the average pretest and posttest scores shows less than 0.05. Where 0.05 is the default value to determine whether or not the hypothesis is accepted. Based on the data above, the student response to the treatment the researcher gave was very good.

This statement is supported by the results of data analysis carried out by researchers using SPSS 23 with a sample analysis of the Paired T-Test and one sample T-Test to find out whether there were significant differences before and after being given treatment and to find out whether the hypothesis is acceptable or not. The hypothesis turned out to be acceptable because the results shown from sig. (2-tailed) the score of the two tests is less than 0.05

which means that the hypothesis is accepted, the use of HOTS (Higher Order of Thinking Skill) questions as a training medium for students to develop critical reading skills in English is effective and there is a good influence on improving abilities student learning. HOTS has a requirement that is to make students carry out reading material analysis activities from simple to more complex ones. Other research also from Parama Kwangmuang et al (2021). Researchers conducted a study entitled "Development of learning innovations to improve higher-order thinking skills for students in Thai junior high schools". In this study, the researcher wrote very interestingly to show that students should experience learning that helps them improve their knowledge and thinking skills. Previous research stated that HOTS is considered as the ability to analyze, synthesize, evaluate, develop skills, estimate, generalize, and think, make decisions, set goals, think critically and systemically. Several previous studies have shown that HOTS includes two components, namely critical thinking skills and creative logical thinking.

4. CONCLUSION

Based on the results of research that has been done by processing data in the form of pretest and posttest scores, it can be seen that there is a significant influence on the application of HOTS in improving students' critical reading skills, which can be seen from the increase in student scores before and after being given treatment. In the results of the two tests there was an increase in the average pretest score from 61.33 to 85.00 in the posttest average score. The results of data analysis show sig. (2 tailed) score less than 0.05, which means the hypothesis can be accepted. This statement is also supported by the results of the analysis using SPSS with the Paired T-Test and one sample test as well as from related previous researchers.

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