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The Influence of Learning Models Core (Connecting, Organizing, Reflecting and Extending) to Critical Thinking Ability and Achievement Students of Grade V of Tritih Kulon 05 State Elementary School

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ABSTRACT

This research aims to determine the effect of the CORE (Connecting, Organizing, Reflecting and Extending) Learning Model on students' critical thinking abilities and learning achievement. This research uses a quantitative experimental research type with a quasi-experimental method. The research sample in the VA class was 20 students as the experimental group and 21 students in the VB class as the control group. The data collection method uses the test method, 10 multiple choice questions to test learning achievement and 4 essay questions for critical thinking skills. Based on the results of data processing on the posttest scores through the Independent Sample T-test, the critical thinking ability variable showed a result of 0.03 < 0.05, meaning Ha was accepted. processing the posttest score data through the Independent Sample T-test for the learning achievement variable also showed a result of 0.00 < 0.05, meaning Ha was accepted. Thus, the CORE (Connecting, Organizing, Reflecting and Extending) Learning Model has a positive effect on students' critical thinking abilities and learning achievements.

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1. INTRODUCTION

Education is one of the most important substances in life. Education is one of the keys to the progress of a country, because with high-quality education will create quality Human Resources (HR). These quality people will bring the country forward and be able to compete in the era of globalization. Especially Indonesia which is actively building the quality of its education in order to prepare HR who are able to compete in the era of globalization. The quality of education is the ability of basic education both from the process and management, must provide effective education to improve input and output factors.

Education is the right of all children that has been regulated in the Constitution. Because education is one of the basic rights that must be owned by all children. A quality country is a country that is able to improve the education system, namely by having a curriculum that can create a generation that can educate the nation's life, master knowledge, skills, expertise in accordance with technological developments, be independent and can be responsible for themselves and the development of the nation that creates quality human resources.

Education is the most important asset and the best investment for a country. Quality education can have a big influence on the development of a country. Therefore, education needs special attention and support from the government and society. Education is the main key in shaping the attitude, character and intellectuality of a

nation. Realizing a quality next generation of the nation is certainly inseparable from the role of educational institutions, namely schools. Schools are a place for every human being to gain knowledge. Every human being certainly longs for a happy, prosperous and prosperous life. This is certainly inseparable from the provision of knowledge, with the provision of knowledge, every human being will find it easier to realize their desired ideals.

The concept of learning science is learning that is inseparable from factual natural events or phenomena, either in the form of reality or events and cause-effect relationships. The process of learning science is to prioritize an experiment or research in the process of solving a problem. Optimizing the process of learning science is inseparable from several factors or the most important components that must be met.

Such as the existence of professional educators, the readiness of students in capturing and processing information and environmental management in the implementation of scientific learning.

It should be understood that science is a science that is closely related to the understanding of natural phenomena around us. In addition, the nature of science learning has five important aspects, such as scientific knowledge, scientific processes, scientific attitudes, scientific applications and creativity which are a whole unit as a characteristic of science learning. Based on this, as an educator, it is necessary to have a myriad of alternatives to be able to realize the five important aspects in science learning. Realizing the five aspects of science is not easy, there needs to be a way or step that must be used by educators, one way that can be used is implementing learning models in teaching and learning activities in schools.

Educators have an important role in the success of student learning. The problem that often occurs today is that educators often become the center of learning (Teacher Centered) and students only become objects of acceptance (Student Centered) without realizing that with the selection of learning, educators only provide lecture methods so that students do not experience it, only imagine it, this does not provide students with the opportunity to develop critical thinking skills. Critical thinking is the ability of students to compare as much information as possible to obtain knowledge goals through testing against deviant symptoms and truth.

Critical thinking is the ability to think by giving reasons in an organized manner and evaluating the quality of a reason systematically and deciding on beliefs. According to Ennis, critical thinking is a process of thinking that aims to make rational decisions that are directed at deciding whether to believe or do something. The ability to think critically considers and evaluates information that ultimately allows students to actively make decisions. Critical thinking is not enough to be used as an educational goal alone, but also as a fundamental process that allows students to overcome various future problems in their environment.

Improving critical thinking skills in the educational process can be done by applying learning models or techniques or a combination of learning models and techniques. One of the high order thinking skills that is required to be honed in the 21st century is critical thinking skills. This ability needs to be honed so that students improve their "High Order Thinking", so that students can improve their own quality, build their own innovations and become effective leaders in society. Whether or not a learning model is selected will depend on the learning objectives, suitability to the learning material, the level of student development, the teacher's ability to manage learning and optimize existing learning resources (Daryanto, 2012:240). The use of the right learning model can encourage the growth of a sense of enjoyment in the learning process, foster and increase motivation in doing assignments, and make it easier for students to understand lessons that are considered difficult. Several learning models that can be applied in learning and used as choices by teachers in implementing learning in the classroom.

The situation at school shows that the quality of science lessons in grade V is not yet as expected. This is indicated by the low critical thinking skills of students and the low learning achievement of students in science subjects.

This is influenced by the assumption of students who state that science is a difficult subject because in general the description of science learning is often presented in the form of theory/lectures and in its delivery the teacher rarely makes teaching aids. This is also what often causes the learning process to be ineffective, students are reluctant to ask questions because their interest is low, and in the learning process students lack concentration because the teacher's delivery only relies on the lecture method, so students often do not do their assignments well. This results in a lack of understanding of students which will have an impact on low student learning achievement. Therefore, as a professional teacher, innovations are needed in the learning process so that a goal of learning can be achieved.

One of the learning models that is suitable for developing students' HOTS abilities, especially critical thinking, is CORE (Connecting, Organizing, Reflecting, And Extending). The CORE learning model is one of the learning models that can be used to empower students' critical thinking abilities. The CORE model has the following steps, namely: Starting learning with activities that interest students, delivering old concepts that will be connected to new concepts by the teacher to students (Connecting [C]), organizing ideas to understand the material carried out by students with teacher guidance (Organizing [O]), dividing groups heterogeneously (a mixture of smart, average and less) consisting of 4-5 people, rethinking, deepening, and exploring information that has been obtained and implemented in student group learning activities (Reflecting [R]). Developing,

expanding, using, and finding through individual tasks by working on assignments (Extending [E]). According to Karlina Wati, the CORE learning model is a learning model that is specifically designed in learning activities to form, enliven, and train the activeness of students so that it is easier for them to find their own knowledge through the thinking process.

Therefore, the author wants to conduct research activities with the title *"The Influence of the Core Learning Model (Connecting, Organizing, Reflecting, Extending) on Critical Thinking Skills and Learning Achievement of Class V Students of Tritih Kulon 05 Elementary School."*

2. METHOD OF THE RESEARCH

The research was conducted at Tritih Kulon 05 Elementary School, Angsana Street, Tritih Kulon Village, North Cilacap District, Cilacap Regency. The location of Tritih Kulon 05 Elementary School is quite close to residential areas, it does not interfere with the teaching and learning process. This research was conducted in semester 2 of the 2023/2024 Academic Year.

Population According to Sugiyono (2015:167) Population is a generalization area consisting of objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn. Population is the entire object that will/want to be studied. The population in this study was all students of Tritih Kulon 05 Elementary School, totaling 304 students.

A sample is a portion of the population taken according to a certain procedure so that it can represent the population. The selection of samples in this study was carried out directly based on certain considerations. Students of class VA and class VB of Tritih Kulon 05 Elementary School. Class VA as the control class consists of 20 students. Class VB as the experimental class consists of 21 students.

Sugiyono (2019:109) experimental research method is a research method used to find the effect of certain treatments on others under controlled conditions. This study uses a Quasi Experimental research design type in the form of Nonequivalent Control Group Design:

Table 1. Research Design

Group	Pretest	Action	Posttest
(R) K	01	X	02
(R) E	03	-	04

Information:

E : Control Group
K : Experimental Group
01 : Pretest of Control Group
03: Pretest of Experimental group
02 : Control Group Posttest
04: Experimental Group Posttest
X : Action or treatment with use model CORE.

a. Operational Definition of Variables

According to Sugiyono (2015:81) The operational definition of a variable is an explanation of each variable used in research on the indicators that form it. The variables used in research are independent variables and dependent variables. Independent variables are variables that influence. While dependent variables are variables that are influenced by the existence of independent variables.

The variables in this study are independent variables and dependent variables, with the following explanation:

1. The CORE model is a learning model that emphasizes students' thinking skills to connect, organize, explore, manage and develop the information obtained. The CORE model is an independent variable (X).
2. Critical thinking is a mental process that must be developed because it can solve problems and can affect learning achievement and the success of the learning process. Critical thinking is a dependent variable (Y1) and Learning Achievement is a dependent variable (Y2)

Before conducting data analysis testing, a prerequisite analysis test was first conducted, namely by testing normality and homogeneity between subjects in the experimental class and the control class. Researchers used SPSS 20.0 software to analyze research data with prerequisites, namely normality tests, homogeneity tests and hypothesis tests.

3. RESULTS AND DISCUSSION

1. Normality Test

Normality tests were conducted on critical thinking and learning achievement data, namely pre-test and post-test scores in the control class and experimental class.

Table 2. Normality Test of Learning Achievement

Tests of Normality

	Kelas	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Hasil Belajar Siswa	Pre-Test Kontrol	.213	20	.018	.938	20	.221
	Post-Test Kontrol	.176	20	.105	.922	20	.108
	Pre-Test Eksperimen	.200	20	.034	.929	20	.147
	Post-Test Eksperimen	.176	20	.105	.922	20	.108

The Kolmogorov-Smirnov and Shapiro-Wilk tests were used to test whether the data were normally distributed. The following is an interpretation based on the p-value (Sig.):

- **If p-value > 0.05** : Data is normally distributed (null hypothesis is not rejected).
- **If p-value < 0.05** : Data is not normally distributed (null hypothesis is rejected).

Based on the results of the Normality Test, a significant value of 0.108 is obtained, which is greater than 0.05. In accordance with these results, it can be concluded that the data is normally distributed, which means that Ho is accepted. So it can be seen that the hypothesis of this study is that student learning achievement is proven to be normally distributed, thus the control and experimental classes have a level of normality and central tendency.

Table 3. Normality Test of Critical Thinking Ability

Tests of Normality

	Kelas	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Kemampuan Berpikir Kritis	Pre-Test Kontrol	.233	20	.006	.921	20	.103
	Post-Test Kontrol	.223	20	.010	.906	20	.053
	Pre-Test Eksperimen	.167	20	.144	.924	20	.118
	Post-Test Eksperimen	.221	20	.011	.927	20	.134

Based on the results of the Normality Test, a significant value of 0.134 is obtained, which is greater than 0.05. In accordance with these results, it can be concluded that the data is normally distributed, which means that Ho is accepted. So it can be seen that the hypothesis of this study is that students' critical thinking skills are proven to be normally distributed, thus the control and experimental classes have a level of normality and central tendency.

2. Homogeneity Test

Table 4. Results of the homogeneity test of learning achievement

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Hasil Belajar Siswa	Based on Mean	.000	1	38	1.000
	Based on Median	.000	1	38	1.000
	Based on Median and with adjusted df	.000	1	38.000	1.000
	Based on trimmed mean	.000	1	38	1.000

Based on the results of the Homogeneity Test, a significant value of 1,000 is obtained, which is greater than 0.05. Thus, it can be concluded that the control and experimental class data have the same/homogeneous variance, which means that Ho is accepted. So it can be seen that the hypothesis of this study is that the variance of the learning achievement data of the control and experimental classes is the same/homogeneous.

Table 5. Results of the Critical Thinking Ability Homogeneity Test

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Kemampuan Berpikir Siswa	Based on Mean	1.456	1	38	.235
	Based on Median	1.514	1	38	.226
	Based on Median and with adjusted df	1.514	1	37.078	.226
	Based on trimmed mean	1.365	1	38	.250

Based on the results of the Homogeneity Test, a significant value of 0.235 is obtained, which is greater than 0.05. It can be concluded that the control and experimental class data have the same/homogeneous variance, which means Ho is accepted. So it can be seen that the hypothesis of this study is that the variance of the critical thinking ability data of the control and experimental classes is the same/homogeneous.

3. Hypothesis Testing

Ardiana (2017) t-test is a partial test that used for testing relatedness between variable free in a way individual with variable bound. Researcher use program IBM SPSS Statistics 20.

Table 6. T-test Hypothesis Test

Group Statistics

	Kelas	N	Mean	Std. Deviation	Std. Error Mean
Hasil_Belajar	Post-Tes Kontrol	20	76.50	10.894	2.436
	Post-Tes Eksperimen	20	83.50	10.894	2.436

Based on the table above, it shows that both groups have 20 samples each. The final data of the average value of the experimental class is higher than the control class group seen from the average, which is 83.50 with 76.50. Then for the Independent Sample Test table as follows:

Table 7. Independent T-Hypothesis Test of Learning Outcomes

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Hasil_Belajar	Equal variances assumed	.000	1.000	-2.032	38	.049	-7.000	3.445	-13.974	-.026
	Equal variances not assumed			-2.032	38.000	.049	-7.000	3.445	-13.974	-.026

Based on the results of the independent t-test, a significance value (p) of 0.049 <0.05 was obtained. This indicates that there is a significant difference between the average value of student learning achievement in the experimental class (which uses the CORE Model) and the control class (which does not apply the CORE Learning Model).

Table 8. Independent T-Hypothesis Test of Critical Thinking Ability

Group Statistics

	Kelas	N	Mean	Std. Deviation	Std. Error Mean
Berpikir_Kritis	Post-Tes Kontrol	20	16.15	1.814	.406
	Post-Tes Eksperimen	20	17.35	1.531	.342

Based on the table above, it shows that both groups have 20 samples each. The final data of the average value of the experimental class is higher than the control class group seen from the average, which is 16.15 with 17.35. Then for the Independent Sample Test table as follows:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Berpikir_Kritis	Equal variances assumed	.133	.717	-2.260	38	.030	-1.200	.531	-2.275	-.125
	Equal variances not assumed			-2.260	36.956	.030	-1.200	.531	-2.276	-.124

Based on the results of the independent t-test, a significance value (p) of 0.30 <0.05 was obtained. This indicates that there is a significant difference between the average value of student learning achievement in the experimental class (which uses the CORE Model) and the control class (which does not apply the CORE Learning Model).

Based on the results of the independent t-test, a significance value (p) of 0.030 (<0.05) was obtained. This shows that there is a significant difference between the average value of student learning achievement in the experimental class (which applies the CORE Model) and the control class (which does not apply the CORE Model).

4. CONCLUSION

The conclusion obtained from this study is The Core Learning Model in this study was proven to be effective in influencing the critical thinking skills of grade 5 students with the results of the independent t-test, obtaining a significance value (p) of 0.049 (<0.05). For this reason, this learning model can be used as a reference for educators and can be used in each class. The Core Learning Model in this training has been proven to have an effect on the achievements of grade 5 students, as evidenced by the increase in students' test scores.

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