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The Influence of the Core Learning Model (Connecting, Organizing, Reflecting, Extending) on Critical Thinking Ability in Class X Geography Subjects in Man 1 Palu City

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Abstract

The aim of this research is to determine the effect of CORE (Connecting, Organizing, Reflecting, Extending) learning on critical thinking skills in Geography Subjects. This type of research is quantitative with experimental methods. The quasi-experimental method is a scientific investigation that requires the researcher to manipulate and control one or more and observe the dependent variable, to see differences in accordance with the manipulation of the independent variables. The research design that will be used is a nonquivalent control group design, where this research uses a pretest and posttest carried out in both the experimental class and the control class. The results of the research show that there is a significant influence of the CORE (Connecting, Organizing, Reflecting, Extending) Learning Model on critical thinking skills in Class X Geography Subjects at MAN 1 Palu City. This is proven by the results of the t-test using the independent sample t-test formula. The results show a significance value (2-tailed) of 0.007 < 0.05 so Ho is rejected and Ha is accepted. Class X students' critical thinking skills regarding geography learning using the CORE learning method.

Keywords: Core; Learning models; Critical Thinking

1. INTRODUCTION

The 2013 curriculum demands that students be skilled at critical thinking in learning. According to Mertes (1986), Critical thinking is a deliberate and conscious process of interpreting and evaluating information from existing experiences, beliefs, and abilities. These critical thinking skills can be implemented in the learning process in the 2013 curriculum. Apart from that, in the current learning year, some have used the new paradigm curriculum or Merdeka Belajar, presented to answer existing challenges, especially in improving students' thinking abilities. Freedom of learning, which provides students with the opportunity to learn calmly and happily, is expected to help students grow and develop according to their potential and abilities. Critical thinking ability is defined as the ability to objectively process information both qualitatively and quantitatively, build relationships between various information, analyze information, evaluate, and conclude.

The world of education, learning in the classroom, and basic factors in nurturing, developing, and teaching students. During the learning process, teachers will definitely face various kinds of problems that occur. These problems can be a factor inhibiting learning so that students are uncomfortable in class and do not understand what the teacher is saying. This will of course be a failure in classroom learning activities, the teacher must be able to overcome problems that may occur. Small problems that occur in the classroom can become big and even complex problems if these problems are not immediately handled well by the teacher, students will not be able to follow the lesson well, this is where the important role of the teacher as a guide in the student's learning process educate. Teachers must be able to find inhibiting factors in the learning process in the classroom so that teaching and learning activities can be carried out well. To find inhibiting factors, teachers must be able to identify problems that students may be facing. Problem identification is a process of searching for, recognizing, and understanding various kinds of things or problems faced. The aim of identifying problems in the

classroom, among other things, is being able to find out what problems are occurring, being able to recognize students who are having problems, and being able to find the best solution based on the problems that are occurring.

The importance of developing critical thinking in geography learning needs to start with geography learning itself, especially in secondary schools, including the object of study of geography learning, objectives, and scope of geography learning. Learning plans that are in accordance with learning objectives, apart from that, students try to think critically about how to interact with information to gain knowledge, develop communication skills, and find solutions to problems. Geography lessons are one of the social studies subjects that are directly related to social life and the natural environment. There are at least five values contained in the background of the Geography subject. These five values are creative, critical, intelligent, wise, and responsible in dealing with social, economic, and ecological problems. Smart means students can solve problems in their environment. Wise means students can use universal and local values to solve problems. Responsibility means having the courage to make decisions and being ready to bear the risks that occur due to the decision. In this way, ideal geography learning can develop an understanding of active, creative, critical, intelligent, wise, and responsible attitudes toward geographical problems.

Geography, as a science that studies the surface of the earth, is of course very interested in a number of natural phenomena in its environment. Apart from being used as illustration material, it is also used as a place for the learning process to take place. Worosuprojo (2011) explains that geography learning is theoretical and practical which can be carried out in the classroom and in the field (outdoor learning) with very diverse teaching methods such as teacher-based learning, student-based learning, research-based learning, problem-solving learning, and experimental/practical based learning. It can be interpreted that the environment is the source of learning geography, whereas in the 2013 curriculum supporting text issued by the Ministry of National Education (2013:4), strengthening the scientific approach needs to be applied to learning based on attitude/research (discovery/inquiry learning). To encourage students' ability to produce contextual work, both individually and in groups, it is highly recommended to use a learning approach that produces work based on problem-solving (project-based learning). Critical thinking can be seen as students' thinking ability to compare two or more pieces of information, for example, information received from outside with the information they have. If there are differences or similarities, he will ask questions or comments with the aim of getting an explanation. The ability to think critically is one of the basic capital or intellectual capital that is very important for every person and is a fundamental part of human maturity. Therefore, developing critical thinking skills is very important for students at every level of education. Critical thinking can train the ability to think rationally, independently, and reflectively. Reflective thinking and acting refer to actions and thoughts that are not planned, meaning that these actions just happen spontaneously, where the brain will reflexively think about something and do other things without needing to think or tell the brain to think of answers and creative ideas. Critical thinking will make students have many creative and innovative ideas. Kurniasih (2013).

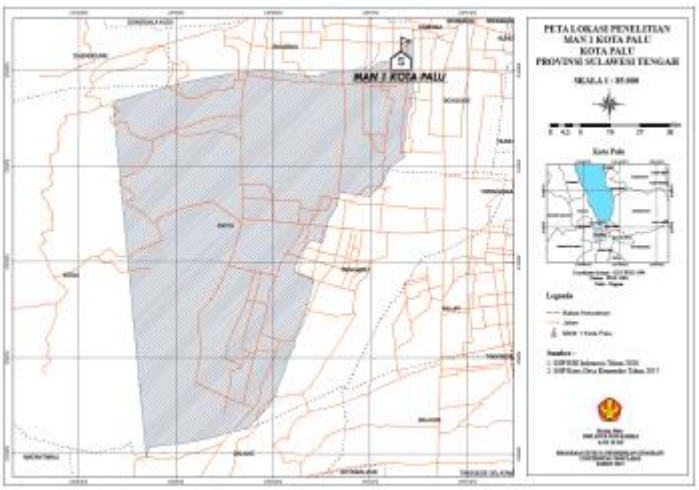
CORE (connecting, organizing, reflecting, extending) is a learning model that uses a constructivist approach with learning activities centered on students and the teacher acting as a facilitator. This is supported by Tamalene (2010), the CORE learning model is a learning model based on the constructivism theory that students must be able to construct their own knowledge, through self-interaction with their environment. Chambliss & Calfee (2014) stated that the CORE model is a learning model that can influence the development of student's critical thinking by involving students through activities connecting old knowledge with new knowledge and between concepts (connecting), organizing (organizing), new knowledge with old knowledge and then thinking about the concept being studied (reflecting) and it is hoped that students can expand their knowledge during the teaching and learning process (extending).

Based on the results of initial observations at MAN 1 Palu City, especially class which shows active questioning and opinion. Optimizing the role of teachers needs to be increased further, the role of teachers as educators need to receive special attention in implementing appropriate learning models in order to stimulate creativity and learning activities that encourage students to make connections between the knowledge they have and the knowledge gained from the learning process so that in the end students will have critical thinking skills. It was found that learning that tends to be ineffective

includes; The application of learning models are not yet in accordance with the material being taught, so that students feel bored and bored in the classroom because teachers have not fully involved students in learning, many students' learning outcomes have not yet reached completeness. This is because, during the learning process, the teacher still applies the lecture method or other methods such as demonstrations, contextual learning, and structured task learning, and does not fully involve students actively during the learning process. This causes the students' learning process to think critically. is still relatively low, but critical thinking has an important role in preparing students to solve problems, explain reasons, and make evaluations about information. One alternative to encourage students to think critically is to apply the CORE (Connecting, Organizing, Reflecting, Extending) learning model. Through the application of the CORE learning model, researchers intend to help teachers with difficulties in providing learning materials to students. In this learning, students are placed in study groups so that students' learning resources are not only teachers or textbooks but also peers in their group. Critical thinking skills are important to develop in students considering that these abilities can be used as provisions in dealing with problems that exist in real-world contexts. Critical thinking allows a person to analyze and evaluate their thinking so as to reduce the risk of errors in making decisions regarding problems that often occur in their lives. The problem-based learning and argumentation (PBLA) model is a learning model that requires students to be able to solve and provide arguments for the problem being investigated. In this model, argumentation plays an important role for students, because during the learning process, students are not only expected to be able to solve problems but also be able to provide strong arguments based on valid evidence and can rationally help the group solve problems. The goal of PBLA is to apply critical thinking skills, problem-solving, and content knowledge to solve problems. In solving problems, students are directed to form discussion groups consisting of four to eight students, where the group formation aims to encourage students to be able to exchange ideas and thoughts with each other, apart from that, through group discussions, students can explore the causes of problems, producing many solutions. , negotiate alternative solutions, and build new, more meaningful knowledge.

2. RESEARCH METHOD

This research is quantitative research with a descriptive approach. Quantitative research examines objects by counting using numerical units to determine the size of the object being studied, both real and abstract objects.



Picture. 1. Research Location Map

The population in this study were all students of class X IPS MAN 1 Palu City for the 2022-2023 academic year, totaling 48 students divided into 2 classes. The types of data used in this research are primary data and secondary data. Data collection techniques use observation, interviews, and documents.

1. Normality test

Based on the output results of the normality test "Kolmogorov-Smirnov tests of normality" it can be seen that the significance value (Sig.) of the critical thinking variable in the pre-test and post-test in the experimental class is 0.200, while in the pre-test in the control class it is 0.200, and in the post-test it was 0.182. In the normality test "Shapiro-Wilk test of normality" it can be seen that the significance value (Sig.) in the pre-test is 0.120 and post-test 0.174, while in the control class, the pre-test is 0.246, and the post-test is 0.142. Because the Sig.α value is > 0.05, it can be concluded that the experimental and control class data variants are normally distributed.

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Kelas	Statistic	df	Sig.	Statistic	df	Sig.
Berpikir_Kritis	Pretest Eksperimen	.140	25	.200*	.936	25	.120
	Post Eksperimen	.141	25	.200*	.943	25	.174
	Pretest Kontrol	.146	23	.200*	.946	23	.246
	Post Kontrol	.152	23	.182	.935	23	.142

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

1. Homogeneity Test

Based on the table above, the sig value Based on Mean is 0.155 > 0.05. The significance value is greater than 0.05 (sig > 0.05). So it can be concluded that H0 is accepted, which means there is no difference in variance between the two groups or the two samples are homogeneous. Thus, one of the conditions (not absolute) of the independent sample t-test has been fulfilled.

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Berpikir_Kritis	Based on Mean	2.088	1	46	.155
	Based on Median	2.085	1	46	.156
	Based on Median and with adjusted df	2.085	1	40.927	.156
	Based on trimmed mean	2.154	1	46	.149

N-Gain Score Calculation Test

Table 1. Independent Sample T-Test

N-Gain Score Test Calculation Results

No	Experimental Class N-Gain Score (%)	No	Control Class N-Gain Score (%)
1	75	1	33.33
2	80	2	20
3	100	3	25
4	60	4	30
5	50	5	33.33
6	75	6	50
7	40	7	66.67
8	100	8	33.33
9	37.5	9	42.86
10	50	10	75
11	50	11	33.33
12	42.86	12	60

13	50	13	38.46
14	71.43	14	20
15	62.5	15	-20
16	100	16	50
17	75	17	62.5
18	60	18	33.33
19	62.5	19	50
20	20	20	50
21	75	21	62.5
22	50	22	37.5
23	50	23	60
24	100	**Average**	**41.1805**
25	100	**Minimal**	**20**
Average	**65.4714**	**Maximum**	**75**
Minimal	**20**		
Maximum	**100**		

Based on the results of the NGain test calculation above, it shows that the average N-gain score for the experimental class using the CORE method is 65.4714 or 65.5%, which is in the quite effective category. With a minimum N-gain score of 20% and a maximum of 100%. Meanwhile, the average N-gain score for the control class using conventional methods was 41.1805 or 41.2%, which was included in the less effective category. With a minimum N-gain score of 20% and a maximum of 75%. So it can be concluded that the use of the CORE method is quite influential for students' critical thinking abilities in geography subjects.

2. Hypothesis test

Independent Sample T-Test

The hypothesis in this research is that there is a significant influence and difference between the use of the CORE model on critical thinking in the Class X Geography Subject at MAN 1 Palu City. Testing the research hypothesis using the t-test to determine the research conclusions, and whether the null hypothesis is rejected or accepted. The provisions of the t-test are that if the significance value is > 0.05, then Ho is accepted, and if the significance value is ≤ 0.05, then Ho is rejected. Both data are homogeneous so the calculation results can be seen in the Equal Variance Assumed Sig column. (2tailed).

Table 2. Independent Sample T-Test

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	2.871	.097	2.822	46	.007	6.861	2.431	1.968	11.754
	Equal variances not assumed			2.781	38.899	.008	6.861	2.467	1.870	11.852

The t-test calculation uses the independent sample t-test formula. The results show a significance value (2-tailed) of 0.007 < 0.05 so that Ho is rejected and Ha is accepted, meaning that on average there is a significant difference between the critical thinking abilities of class X students towards learning

geography using learning methods. CORE (Connecting Organizing Reflecting Extending) is greater than the average result of class X students' critical thinking abilities in learning geography using the conventional model (lecture).

3. RESULTS AND D DISCUSSION

Based on the results of research conducted at MAN 1 Palu City using two classes, namely the experimental class (CORE model) and the control class (conventional model), from these data it can be concluded that the results of the data analysis that has been carried out show that students' critical thinking abilities in the lesson geography before and after receiving learning using the CORE model experienced differences in students' critical thinking abilities which were higher after receiving learning using the CORE model. The average pretest result in the experimental class was 74.00, while the average posttest result was 88.60. The results of the difference test using the independent sample T-Test carried out on the pretest and post-test scores of the experimental class showed that the significance value (2-tailed) was 0.007 <0.05 so that Ho was rejected, which means that students' critical thinking abilities were higher after receiving learning using the CORE model.

Students' higher critical thinking abilities after learning using the CORE model are possible because, through learning using the CORE model, the knowledge that students have is connected to the knowledge that students will learn through the connecting stage. This knowledge is then organized through a group discussion process in the organizing stage. At this stage, students exchange ideas to organize their knowledge to make a decision based on the problem given. The results of the organizing stage that have been carried out are then reflected on and rethought through the reflecting stage by conducting questions and answers or writing down the knowledge gained and things that are still wrong or poorly understood during the learning process. Finally, students expand and deepen their knowledge by working on the questions given at the extending stage.

This is in line with Calfee, et al (Km, Ari, Pudjawan, & Parmiti, 2020: 299) which state that what is meant by the CORE learning model is a learning model that expects students to design and build their own knowledge by connecting and organizing new knowledge with old knowledge, thinking about or analyzing knowledge that has been obtained (reflecting) and expanding students' knowledge during the teaching and learning process (extending). With students' initial knowledge and interactions with the environment, the CORE learning model will be able to increase students' understanding of concepts.

Meanwhile, according to Trisnowali (2019:44), the CORE learning model is a learning model that emphasizes students' thinking abilities to connect, organize, explore, manage, and develop the information obtained. Activities to connect old concepts/information with new concepts/information. Students are trained to remember old concepts/information and use old concepts/information to be used in new concepts/information. Meanwhile, students in the control class still learn teacher-centered, which is characterized by discussions, questions, and answers and working on practice questions. This kind of learning process causes students to tend to be passive in participating in learning activities. Students tend to memorize the concepts given without understanding the concepts that have been given, a learning process like this does not give students the opportunity to play an active role in the learning process. This causes the critical thinking results of class X students in geography subjects to be less than optimal.

Luksiana's (2018:100) CORE learning model applies this model because, with this learning model, the teacher explains the learning material a little, develops student activity, and trains students' memory about a concept in the learning material. Because in learning students are asked to build and increase their knowledge to obtain information, students also carry out activities by exploring the information they obtain to develop it more widely with their group, and students play many active roles so that learning becomes meaningful.

This was also shown in research conducted by Putri (2017: 116) with the research title "The Effect of Applying the Core Model (Connecting, Organizing, Reflecting, Extending) on the Mathematical Critical Thinking Ability of Elementary School Students." Shows that there is an influence between the

mathematical critical thinking abilities of students who receive learning using the CORE model compared to the mathematical critical thinking abilities of students who receive conventional learning. The results of similar research conducted by Nasriyanti, Cahyaningsih, and Nahdi (2021:106) show that there is a positive influence between the CORE learning model and conventional learning models on students' conceptual understanding.

4. CONCLUSION

Based on the results of the research and discussion, it can be concluded that there is a significant influence between the CORE (Connecting, Organizing, Reflecting, Extending) Learning Model on critical thinking skills in Class X Geography Subjects at MAN 1 Palu City. The influence of the CORE (Connecting Extending) learning model based on the results of calculations using normality and homogeneity tests for both classes is said to be normal and homogeneous and the influence of the CORE (Connecting Organizing Reflecting Extending) model is tested based on hypothesis testing using the t-test using the independent sample t formula test results show a significance value (2-tailed) of 0.007 0.05 so that Ho is rejected and Ha is accepted, meaning that on average there is a significant difference between the critical thinking abilities of class X students in learning geography using the CORE (Connecting Organizing Reflecting Extending) learning method. from the average results of class X students' critical thinking abilities regarding geography learning using the conventional model (lecture). So there is a significant influence between classes that use the CORE (Connecting Organizing Reflecting Extending) learning model compared to classes that use the lecture method.

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