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APPLICATION OF THE PROBLEM-BASED LEARNING MODEL IN PKN SUBJECTS ON CRITICAL THINKING ABILITY OF CLASS IV STUDENTS (SD PRIVATE AL-ULUM MEDAN)

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Abstract

Students who do not participate actively in their education do not fully benefit from this research, and as a result, their critical thinking skills are not fully stimulated during their thematic learning. The purpose of this study was to investigate how the application of Problem-Based Learning pedagogy affects students' critical thinking skills during the teaching of Civics subjects to fourth grade students at AlUlum Private Elementary Schools in Medan. The sample of this research was all fourth grade students of AlUlum Medan Private Elementary School, totaling 147 students. The sampling method used in this study was random selection of cases. The sample size for this study was 63 students, divided into two classes: IV A (consisting of 31 students who become the experimental group) and IV B (consisting of 32 students who become the control group). The research instrument uses a standard test battery. This study used prerequisite tests (normality test and homogeneity test) and hypothesis testing techniques for data analysis. The research findings show that implementing a problem-based learning curriculum has a positive effect on students' critical thinking skills; t-test produces a p-value of 0.00000005 indicating that the null hypothesis (H0) is rejected and supports the alternative hypothesis (Ha), which is supported by the data. This means that the application of problem-based learning models has an effect on students' critical thinking skills in learning subjects in class IV of Al-Ulum Private Elementary School Medan. The average (mean) results of data analysis after the intervention was carried out using a problem-based learning model in the experimental class was 82.52. If Compared to students in the control group, who averaged out at a level of 70.62 when not exposed to the problem-based learning model, it became clear that the latter group had a significant advantage. Students whose education is based on problem-solving learning models on average perform better than students who are not educated.

Keywords : Application, PBL Model, Student ability.

Introduction

Education is an important part of nation building. Education cannot be separated from the development process. This development aims to increase access to quality human resources while at the same time encouraging economic growth across sectors. Several national guidelines regarding the meaning of "education" can be seen in Article 1 Paragraph 2 of the 1989 Constitution of the Republic of Indonesia. These guidelines are as follows. "Education is a deliberate effort to prepare students for their future roles through mentoring, teaching, and practice," says author and educator Howard Gardner.(No Tit.צכן‌le, nd). Since education is very important, it is very important to improve it in schools. The success of the learning process is very important for improving educational talent. Several factors, including teachers, students, learning approaches and models, media, student engagement and motivation levels, and the overall educational environment, all have an impact on the intended learning process. It is the job of schools, as formal educational institutions, to systematically plan various learning

environments, or pedagogical settings, in which students can engage in various teaching activities. The development and growth of students is directed towards achieving the desired results through various learning opportunities. This context is discussed and included in the curriculum which will be implemented in the form of a learning process. The current primary school curriculum, known as the "2013 curriculum", is intended to raise academic standards by encauraging students. Confidence and independence. In addition, students are expected to have more than just a wealth of knowledge; they must also have important skills that must be honed, such as the ability to think critically, solve problems, communicate effectively, work together, be creative, and generate new solutions. (Verinsyah & Fitria, 2020). Thematic learning is one of the newest educational approaches, in which a central idea is used to unify different subjects and provide students with a meaningful learning experience. Integrated learning is understood to involve linking various concepts, ideas, skills, and values both across and within different pedagogical domains. Thematic learning is an emphasis related to subject matter for teaching one or several concepts that combine various information. (Verinsyah & Fitria, 2020) It is hoped that this type of thematic learning can encourage students to actively participate in developing their identity by sticking to the teacher's guidance. For its implementation, an active, creative, innovative, and fun learning model is needed. Selecting teaching methods appropriate to the subject matter being covered is essential if students are to engage in the learning process, use their full strengths, and ultimately achieve the desired learning outcomes and acquire the critical thinking skills they will acquire. the need to solve real-world problems. Research conducted at Al-Ulum Private Elementary School Medan on February 3, 2022, found that teachers in grade 4 mostly stick to traditional teaching methods and rarely deviate from focusing on the individual needs of students (teacher-centered learning). engaging in a variety of activities that build knowledge and, in turn, build students' self- The teacher only uses the lecture format to explain the material, then distributes homework assignments to students. As a result, students are less engaged in the learning process, and consequently their critical thinking skills are less challenged. This is demonstrated by using information on student achievement in grades 4a and 4b, by using the bar for passing the basic proficiency test (FPT) at 75% each and state standardized proficiency exams at 85% each.(No Tit.צכן‌le, nd). From the data in table 1.1 above, it can be concluded that student achievement in class IV midterm exams is still below average. For example, out of a total of 31 students

Tabel 1.1

Nilai Ujian Tengah Semester Kelas IV SD Swasta Al-Ulum Medan T.A 2021/2022

Kelas	Jumlah Siswa Tuntas KKM	Jumlah Siswa Tidak Tuntas KKM	Jumlah Siswa	Rata-rata
IV A	21 (klasikal 68 %)	10 (klasikal 32 %)	31	76,06
IV B	12 (klasikal 38 %)	20 (klasikal 63 %)	32	72,61
Jumlah			**63**	**74,34**

Sumber: Daftar Kumpulan Nilai Kelas IV A dan IV B

in grade IV A, only 21 students passed the exam with KKM (traditional pass rate) and 10 students did not pass (standard failure rate). In contrast, out of a total of 32 Class IV B students, only 12 passed the KKM (38% traditional pass rate), while the remaining 20% did not (63% traditional failure rate). , resulting in an average value of 72.61. The even semester average value of the UTS exam results only reached 74.34, below the minimum completeness criteria (KKM) set at 75. As a result of the problems mentioned above, it is necessary to find ways to fix them. To ensure that thematic learning runs smoothly and achieves the desired learning outcomes, Instructors must structure lessons that are interesting and effective in pursuing these goals. Teachers can use pedagogical models to reinforce such practices. Problem-based learning is one of the teaching methods that can be used to get students more involved in their education and to improve their critical thinking skills. Problem-based learning (PBL) is a teaching method that has been proven to have a significant impact on students' critical thinking skills. Problem-based learning (PBL) is a teaching method in which a student is presented with Problem-based learning is one of the teaching methods that can be used to get students more involved in their education and to improve their critical thinking skills. Problem-based learning (PBL) is a teaching method that has been proven to have a significant impact on students' critical thinking skills. Problem-based learning (PBL) is a teaching method in which a student is presented with Problem-based learning is one of the teaching methods that can be used to get students

more involved in their education and to improve their critical thinking skills. Problem-based learning (PBL) is a teaching method that has been proven to have a significant impact on students' critical thinking skills. Problem-based learning (PBL) is a teaching method in which a student is presented with problem, asks a series of questions about the situation, is encouraged to draw conclusions, and then evaluates those conclusions. This problem must be solved by incorporating a number of related concepts and principles that are taught together and thoroughly covered in the subject curriculum. (Verinsyah & Fitria, 2020) choosing a new learning model One of the innovative approaches to education is problem-based learning, which involves students in solving problems similar to those they might face in the real world. This makes students more involved in the learning process and more likely to take responsibility for their own education. Research by Priscilla and Suwarjo (2014: 221) with the title "The Effect of Problem Based Learning on Critical Thinking Skills and Self-Regulation of Class V Students" shows that the Problem Based Learning learning model has a significant effect on students' critical thinking skills. According to data collected by Priscilla and Suwarjo, there was a statistically significant difference (p 0.40) in students' critical thinking skills between classes taught using the Problem-Based Learning pedagogical model and those taught using expositor pedagogical techniques. In addition, the application of the PBL pedagogic model has a positive and statistically significant effect on students' critical thinking skills (r=0.21) Al-Ulum Medan.

Research Methodology

The researcher is interested in conducting his research at Al-Ulum Medan Private Elementary School which is located at Jalan Puri No. 154 in the City of Matsum II Kec. Medan Area of Medan city to get access to data and information needed for their studies. Population is the subject or object that can be studied. Population the study was students of grades 4 to 8 at SD Al-Ulum Medan. Class IVA of SD Al-Ulum Medan has 31 students, class IV-B 32 students, class IVC 30 students, class IV-D 28 students, and class IV-E 26 students. Therefore, 147 students made up the sample size for the analysis of this study. In this study, researchers divided students into two groups, namely the experimental group and the control group, with fourth grade students at Al-Ulum Private Elementary School as the experimental group and fourth grade students at Al-Ulum Private Elementary School as the experimental group. control group. Hypothesis testing (or "hypothesis testing") is a procedure designed to come up with a yes/no decision on a hypothesis put forward by scholars in the past. In this study, we tested the hypothesis by using test- t. This test was conducted to evaluate the research hypothesis about the relative importance of independent variables with respect to those that are correlated. (Sukroni, 2014).

Result & Discussion

This research was conducted at SD Al-Ulum Medan. The purpose of this research is to study how the application of problem-based learning models affects students' critical thinking skills in learning topical subjects in class IV of Al-Ulum Private Elementary School, Medan. This data was collected using a pre-test and post-test design. Students are usually given test questions in the form of quizzes.The researcher has given a validation test to the students of Class VI A Private Al-Ulum Medan on the questions that will be asked before conducting the research. After validating the test results, the researcher gave the experimental and control group students a pretest and posttest respectively, using tests that have been proven valid and reliable. results, they gave treatment to the experimental group consisting of teaching them content through a Problem Based Learning pedagogical approach, while the control group was taught content through a Traditional pedagogical approach. After given the treatment, students in both the experimental group and the control group were given a final test to determine which group had better critical thinking skills when answering test questions. Before testing the hypothesis, it is necessary to carry out normality and homogeneity tests to find out whether the data obtained so far follows a normal distribution or not. The results of the normality and homogeneity tests of the research are presented below.

Normality Test Results

The normality test is used to determine whether the collected data has a normally distributed sample. However, the normality test analysis in this study was supported by SPSS 16.0 for Windows. The decision criteria for the normality test using a significance level of 5% (0.05) are as follows: if the value is less than or equal, then the data is normally distributed; if it is greater than or equal to, then the data is not normally distributed. The normality test results that have been obtained are as follows:

Class	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Critical Thinking Experiment Class	.136	31	.155	.937	31	.070
Control Class	.129	32	.189	.961	32	.292

As shown in table 4.1 above, favoring the Kolmogorov-Smirnov test if the data set contains more than 50 items. The pretest value for the experimental group was found to be 0.155 ± 0.05 and for the control group it was found to be 0.189 ± 0.05, as shown in the Kolmogorov-Smirnov test table. Data from the normality test results in SPSS 16.00 for windows can be seen in more detail starting on page 10 of the 124-page book attachment, so it can be concluded that the critical thinking test questions follow a normal distribution.

Homogeneity Test Results

After the normality of the data is tested, and the normally distributed data has been generated, the next step is to determine whether the data has a homogeneous variance or not. However, SPSS 16.0 for Windows was used for homogeneity testing in this study. When carrying out a homogeneity test with a significance level of 5% (0.05), the decision-making criteria are as follows: if the value is less than or equal, the data is considered homogeneous; otherwise, the data is considered non-homogeneous. Following are the results of the homogeneity test performed

Levene Statistics	df1	df2	Sig.
2,241	1	61	.140

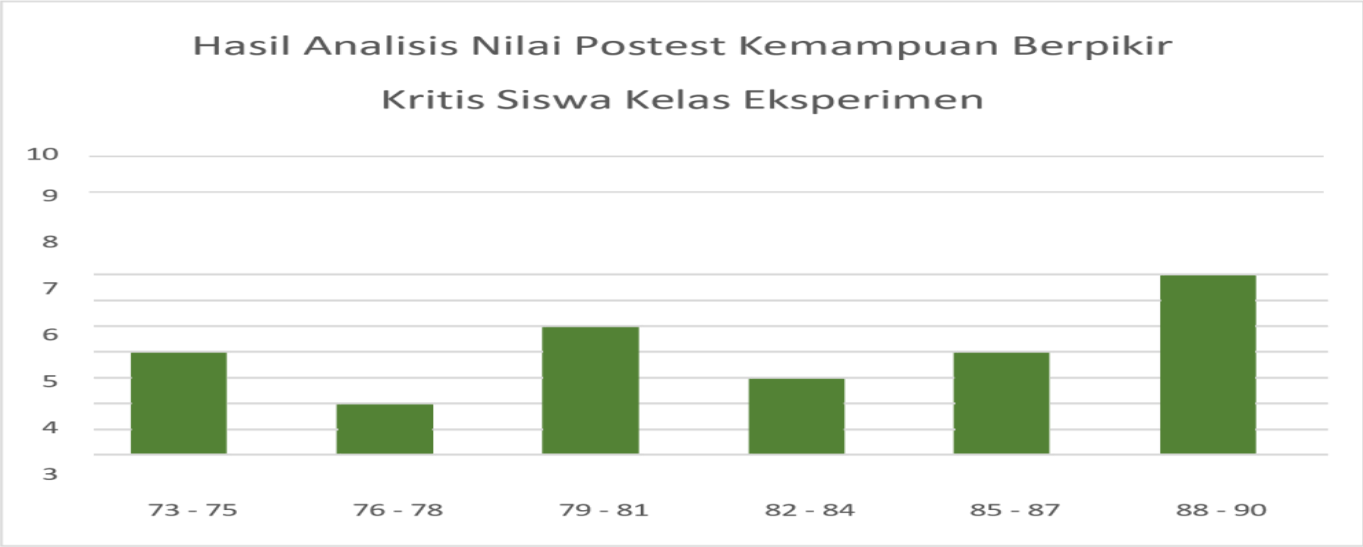
In accordance with the data presented in table 4.2 above, it can be concluded that the significance value obtained is 0.14 (0.04). The resulting data appears to be consistent throughout. You can see more thorough results from the homogeneity test run in SPSS 16.00 for Windows on page 11 of the 124-page report. This study uses a problem-based learning model that is taught to fourth grade students. The purpose of this study was to determine the effect of applying a problem-based learning model on students' critical thinking skills in learning topical subjects in class IV of SD Al-Ulum Medan. After the instrument is prepared, the next step is to determine its validity and reliability for use in research. As soon as you determine that the test or instrument you are going to use is reliable and valid, then activities are given in the experimental class using the PBL pedagogic model, in the control class using the SFE pedagogic model as a comparison, and finally a post-test is included so that students' critical thinking skills can be evaluated. relation to the pedagogical approach they have exposed. This section describes the results of research on students' critical thinking skills, which read as follows:

Results of Students' Critical Thinking Ability in Experimental Class (Problem Based Learning Model)

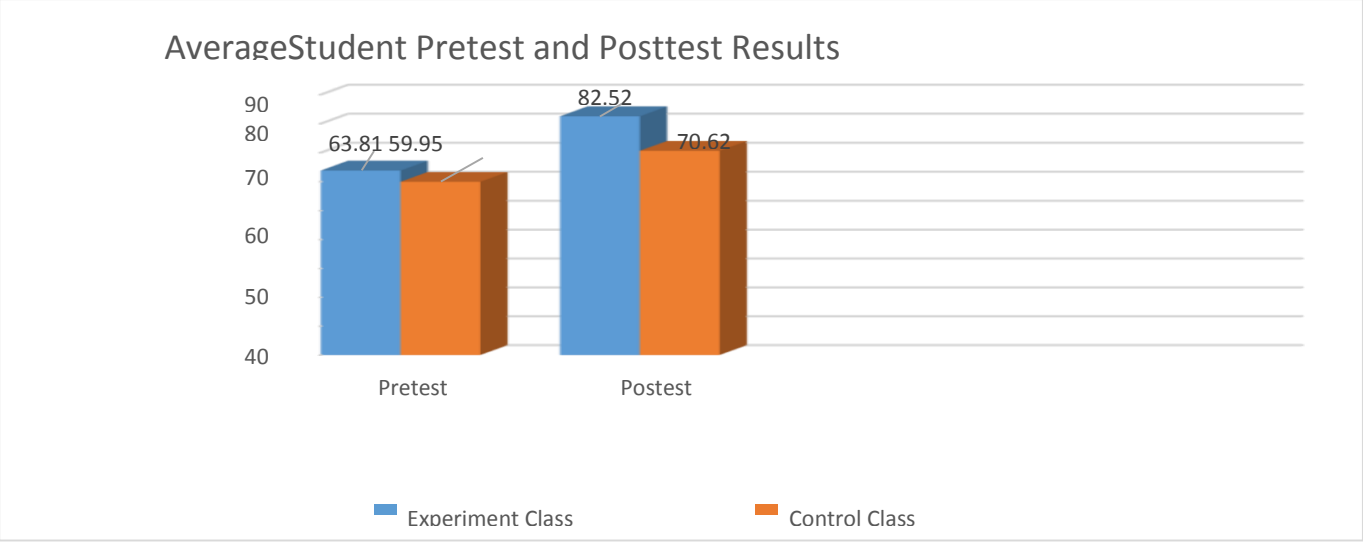
Researchers in the experimental classobtain data on students' critical thinking skills when taught using a problem-based learning approach as follows:

intervals	**Frequency**	**Percentage (%)**
55 – 57	3	10
58–60	9	29
61–63	6	19
64 – 66	4	13
67–69	2	6
70–72	2	6
73–75	5	16
Total	**31**	**100**
Average		**63,81**
Highest		**75**
Lowest		**55**

Based on the data presented in table above, the average pretest score given to the experimental class before being given treatment was 63.81, with the highest score obtained by students was 75 and the lowest score obtained by students was 55. So there were 3 students (10%) with grades between 55 to 57, 9 students (29%), 58 to 60, 6 students (19%), 61 to 63, 4 students (13%), 64 to 66, 2 students (6%), 67 to 69, and 2 students (6%) with grades between 69 up to 70. value interval 70-72 and 5 students (16%) with value interval 73-75. A more detailed explanation can be seen in the following diagram:



The Influence of the Application of Problem Based Learning Learning Models on Students' Critical Thinking Ability in Thematic Learning in Class IV of SD Al-Ulum Medan This is because the results of the independent t-test showed that the PBL method had a significant advantage over the control group (P .0001, sig .05). This means that grade IV students at Al-Ulum Private Elementary School in Medan who use the Problem Based Learning pedagogic model show a significant increase in their critical thinking skills as a result of their subject education. However, data on students' critical thinking skills during content instruction showed that, after receiving treatment through the problem-based learning model, their score increased from an average of 63.81 at the start of the experiment to an impressive 82.52 at the conclusion. In contrast, students in the control class obtained an average score of 59.94 in the initial assessment and 70.62 in the final assessment when not exposed to problem-based learning models. A more detailed explanation can be seen in the following bat diagram:



As can be seen in the previous graph, students who are taught using a problem-based learning approach tend to perform better than their peers who are taught using a traditional approach. This is because the application of a problem-based learning approach can stimulate student interest and involvement in the subject matter being taught. PBL models can assist students in honing problem-solving skills, expanding knowledge, and being more involved

in the learning process. Students' critical thinking skills increase when problem-based learning is implemented because students learn to solve their own problems, construct their own knowledge through the learning process, and communicate effectively through various media. (No Tit.צכן‌le, nd)

Conclusion

The results of data analysis and discussion in this study lead us to the conclusion that: (1) In the experimental class the average value of the pretest given before being given treatment was 63.81; after being given treatment with a problem-based learning model, the average value rose to 82.52 (2) The average pretest score of 32 students in the control group was 59.94, but the average posttest score of students who were treated but not exposed to problem-based learning models was 70.62. The results indicated that students who were given more responsibility and taught with a problem-based learning model in their content classes performed better on average than their peers who were not given such opportunities (3) The application of problem-based learning models affects students' critical thinking skills.

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