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The Influence of Contextual Teaching and Learning Model on Science Learning Outcomes in Elementary School

Jihan Nur Afifah[1*], Mustamiroh[2], Kusdar[3]
[1] *Primary Teacher Education, Universitas Mulawarman, Indonesia*
[2] *Primary Teacher Education, Universitas Mulawarman, Indonesia*
[3] *Primary Teacher Education, Universitas Mulawarman, Indonesia*

Corresponding Author. E-mail: jihannurafifah.jna@gmail.com

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Abstrak

Penelitian ini bertujuan untuk mengetahui: 1) perbedaan hasil belajar IPAS pada kelas eksperimen dan kelas kontrol, 2) perbedaan antara *pretest* dan *posttest* penggunaan model pembelajaran *Contextual Teaching and Learning*, dan 3) pengaruh penggunaan model pembelajaran *Contextual Teaching and Learning* terhadap hasil belajar IPAS. Jenis penelitian ini adalah penelitian kuantitatif metode eksperimen dengan model *True Experimental Pretest-Posttest Control Group Design*. Hasil penelitian menunjukkan bahwa hasil belajar IPAS antara kelas eksperimen dan kelas kontrol dari hasil perhitungan *t-test* diperoleh hasil rerata nilai untuk kelas ekperimen adalah 73,63 dan kelas kontrol adalah 67,88 dengan perbedaan rerata 5,750 dan $\rho < 0,05$ (0,017 < 0,05) maka Ho ditolak. Hasil analisis data sebelum dilakukan eksperimen rerata hasil belajar IPAS 64,50 dan setelah eksperimen 82,75 dengan $\rho < 0,05$ (0,000 < 0,05) maka Ho ditolak. Dengan demikian dapat disimpulkan bahwa ada pengaruh penggunaan model pembelajaran *Contextual Teaching and Learning* terhadap hasil belajar IPAS pada peserta didik kelas IV SD Negeri 016 Sungai Kunjang.

Kata kunci: Hasil Belajar, IPAS, Model Pembelajaran *Contextual Teaching and Learning*.

Abstract

This study aims to determine: 1) differences in science learning outcomes in the experimental class and control class, 2) differences between the pretest and posttest using the Contextual Teaching and Learning learning model, and 3) the effect of using the Contextual Teaching and Learning learning model on science learning outcomes. This type of research is a quantitative experimental research method with the True Experimental Pretest-Posttest Control Group Design model. The results showed that the science learning outcomes between the experimental class and the control class from the results of the t-test calculation obtained the mean value for the experimental class was 73,63 and for the control class was 67,88 with a mean difference of 5,750 and $\rho < 0,05$ (0,017 < 0,05) then Ho is rejected. The results of data analysis before the experiment was carried out the average science learning result was 64,50 and after the experiment it was 82,75 with $\rho < 0,05$ (0,000 < 0,05) then Ho was rejected. Thus it can be concluded that there is an effect of using the Contextual Teaching and Learning learning model on science learning outcomes in class IV students at SD Negeri 016 Sungai Kunjang.

Keywords*: Learning Outcomes, IPAS, Contextual Teaching and Learning Model.*

INTRODUCTION

Law Number 20 of 2003 concerning the Education System is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and the skills needed himself, society, nation and state. Education also contributes to the progress of a nation and builds national character, based on this in line with Permendikbud Number 22 of 2016 concerning Process Standards for Primary and Secondary Education which emphasizes that "the learning process in educational units is carried out in an interactive, inspiring, fun, challenging, motivating students to participate actively, and provide sufficient space for initiative, creative and independent efforts in accordance with the talents, interests and physical and psychological development of students. For this reason, each educational unit carries out lesson plans, implements the learning process and evaluates the learning process to increase the efficiency and effectiveness of achieving graduate competencies"(Kemendikbud RI, 2022).

In order to restore learning from 2022 to 2024, the Ministry of Education and Culture (Ministry of Education, Culture, Research and Technology) issued a policy regarding the development of an Independent Curriculum to be given to educational units. Referring to the conditions of the COVID-19 pandemic in 2019 which caused obstacles in the Teaching and Learning Activities (KBM) process in the Education unit which had quite an important impact. The curriculum used before the COVID-19 pandemic was the 2013 curriculum which was the only curriculum used by educational units in learning. During the COVID-19 pandemic from 2020 to 2021 the Ministry of Education and Culture issued a policy on using the 2013 Curriculum, the Emergency Curriculum, and the Independent Curriculum in Mobilizing Schools (SD, SMP, SMA) and Centers of Excellence (SMK). The Independent Curriculum is an effort to improve and restore learning which was published for the first time in 2021 (Kemendikbud RI, 2022). In 2022 the Independent Curriculum will be implemented in driving schools, especially for Elementary Schools (SD). Merdeka Curriculum as one of the Merdeka Learning programs to improve the quality of learning that focuses on essential (basic) material and on developing the character of the Pancasila Student Profile.

Bloom classifies learning outcomes into three aspects, namely cognitive, affective, and psychomotor. Nurhidayati explained that cognitive aspects are related to students' thinking processes. There are six levels of students' thought process responses in Bloom's Taxonomy, namely knowledge, understanding, application, analysis, synthesis, and assessment. Then Anderson revised the six levels of thought process responses to remember, understand, apply, analyze, evaluate, and create (Permatasari, 2021). Learning Outcomes according to Dewi Astiti et al., there are two elements, namely internal elements which include intelligence, attitudes, habits, talents, and motivation. External elements which include family, community, and school (Kamal et al., 2022).

In this study, the researchers conducted an initial test of student learning outcomes in the science subject subject of cultural diversity in grade IV Public Elementary School (SD) 016 Sungai Kunjang in the 2022/2023 academic year. The results of the initial test conducted by the researcher indicated that there were problems faced by students in learning the science subject matter. In the learning process some students are still passive in accepting subject matter so that the results are less effective, 62.5% of students get scores below the Learning Objectives Achievement Criteria (KKTP) which totals 40 out of 64 students, while the Learning Objectives Achievement Criteria (KKTP) in the IPAS subject in class IV is 70. From these data it is clear that the learning outcomes of students when using a teacher-centered learning model make many student learning outcomes below the Learning Objectives Achievement Criteria (KKTP). Students still pay less attention to the teacher and more often do things outside of learning activities such as chatting. In addition, students are less courageous in expressing opinions or asking questions that are not understood, so that there are still many students who get learning outcomes under the KKTP.

There are many ways to address this, one of which is to change the learning model. Using the right learning model can improve learning outcomes and student motivation. The chosen learning model should be able to provide good learning outcomes and be able to increase student activity. In order for students to be interested in learning, the teacher needs to increase the knowledge that students have by connecting new knowledge of students, such as connecting student knowledge with real conditions or student experience so that students will be interested in learning and not bored. One of the learning models used is the Contextual Teaching and Learning (CTL) learning model, which is in line with research conducted by (Budiman, 2021) that the Contextual Teaching and Learning learning model is a learning concept that helps teachers relate the material being taught to real life. or the experience of students and encourage students to apply it in their lives both as members of the family and society.

Preliminary research conducted by (Budiman, 2021) showed that the results of the initial test (Pre-test) showed an average value of the experimental class of 47.66 and the average value of the control class was 49.96, while from the final test (post-test) carried out given learning

activities with a contextual learning model (CTL) for the experimental class and without a contextual learning model (CTL) for the control class, it was obtained that the average value in the experimental class increased to 78.32 and the average value of the control class became 65 .44, from the post-test results, previous researchers concluded that the average value of the experimental class was higher than the control class and the contextual learning model (CTL) was better when compared to students who were taught without a contextual learning model (CTL). Research conducted by (Ahrisya et al., 2019) showed that the average pretest score for the experimental class was 71.44 and the control class was 75.79. After being given treatment, the average value of the experimental class was 83.22 and that of the control class was 82.42. Based on the results of the study, the previous researchers concluded that there were differences in the average scores of students before and after using the CTL learning model and the average scores of students experienced an increase after using the CTL learning model.

The learning model is a field that must be mastered by every teacher. One of the learning models that can be used by teachers is the Contextual Teaching and Learning learning model which is more appropriately applied in the learning process. According to Mahanani, the application of the Contextual Teaching and Learning learning model in classroom learning really helps teachers to teach by associating learning material through real-world conditions so that some students must experience it directly based on their own experience and apply it in everyday life. By applying the Contextual Teaching and Learning learning model, the enthusiasm of students in participating in the learning process can increase, be motivated, and not get bored so that student learning outcomes will increase optimally compared to applying conventional learning models (Rohaeti et al., 2019).

Several studies that support this research are research conducted (Erni et al., 2020) showing that the CTL learning model has an effect on increasing the scores of students' social studies learning outcomes. Research conducted by (Rahmawati et al., 2019) shows that the CTL learning model has an effect on student mathematics learning outcomes. Research conducted by (Putu Ayu Anjani et al., 2020) shows that the Contextual Teaching and Learning model assisted by concrete media has an effect on science knowledge competence.

Based on the explanation above, the researcher is interested in carrying out research on "The Influence of Contextual Teaching and Learning Model on Science Learning Outcomes in Elementary School".

METHODS

Types of research

This type of research is a quantitative experimental research method with the True Experimental Pretest-Posttest Control Group Design model in which two groups are randomly selected, then given a pretest to determine whether there is a difference in the initial state between the experimental group and the control group (Sugiyono, 2015).

Time and Place of Research

When the research was carried out in February 2023 semester 2 of the 2022/2023 academic year. The location of the research was carried out at SD Negeri 016 Sungai Kunjang Jl. Prince Antasari, Lerong Ulu Bay, Sungai Kunjang District, Samarinda.

Population and Sample

The population in this study were all fourth grade students at SD Negeri 016 Sungai Kunjang in the 2022/2023 academic year, totaling 128 students which were divided into 4 classes with 32 students each. The sample of this study was 64 students with 32 students in class IV-B as an experimental class using the Contextual Teaching and Learning learning model and 32 students in class IV-D as a control class using conventional learning models, with a sampling technique. using the Simple Random Sampling technique which is a simple sampling technique because the sample members from the population are taken randomly without regard to certain groups in the population.

Research Instruments

The research instrument used test instruments in the form of objective tests such as true-false, multiple choice, short entries, and matchmaking. The questionnaire instrument in the form of a list of statements that must be answered by the respondent, the questionnaire is addressed to students for the experimental class. This questionnaire technique is used by researchers to obtain data on student learning outcomes after receiving treatment. This data is used to answer problems in research. This questionnaire will measure how far the influence of the learning model on the affective learning outcomes of students.

Data Collection Technique

Test data collection techniques are in the form of pretest and posttest data to determine students' initial and final abilities after being given treatment using the Contextual Teaching and Learning learning model. The questionnaire data collection technique is in the form of student questionnaires to find out students' direct assessment

of the Contextual Teaching and Learning learning model during the learning process in class.

Data Analysis Technique

1. Validity Test

The validity test is a test of research questions with the aim of seeing how far the respondent understands the questions posed by the researcher (Sahir, 2021). The formula used is Pearson Product Moment:

$$rxy = \frac{N\Sigma xy-(\Sigma x)(\Sigma y)}{\sqrt{\{(N\Sigma x^2-(\Sigma x)^2\}\{(N\Sigma y^2-(\Sigma y)^2\}}}$$

(Sahir, 2021)

Information:

r_{xy} = correlation coefficient between x and y

N = number of subjects

Σ_{xy} = the number of multiplications between the x score and the y score

Σ_x = total score x

Σ_y = total score y

Σ_x^2 = the sum of the x squares

Σ_y^2 = the sum of the y squares

With the criteria of looking at Significant Value (ρ):

The value of ρ < 0,05 means the questions are said to be valid.

The value of ρ > 0,05 means the questions are said to be invalid.

2. Reliability Test

The reliability test is to test the consistency of the respondents' answers. The reliability test is related to the problem of having confidence in the test instrument. An instrument can have a high level of confidence if the results of testing the instrument show consistent results (Setyawan, 2022). The formula used is Cronbach's Alpha:

$$r_{11} = \left(\frac{k}{k-1}\right)\left(1-\frac{\Sigma S_i}{S_t}\right)$$

(Sahir, 2021)
Information:

r_{11} = Reliability value

k = number of items/questions

ΣS_i = the number of variant scores for each item/question

S_t = total variant

According to Djemari, (2003) a questionnaire or questionnaire can be said to be reliable if it has an Alpha value of at least 0.70 so that Cronbach's Alpha value is > 0.70 (Sahir, 2021).

3. Normality Test

The normality test is a statistical testing method that is carried out to find out whether the distribution of data is normally distributed or not in the experimental class and control (Lestari & Yudhanegara, 2018). The formula used is the Shapiro-Wilk test because there are less than 50 samples in each class:

$$T_3 = \frac{1}{D}[\sum_{i=1}^{n} \alpha_i(x_{n-i+1} - x_i)^2]$$

(Lestari & Yudhanegara, 2018)
Information:

D = $\sum_{i=1}^{n} (x_i - \overline{x})^2$

α_i = Shapiro Wilk test coefficient

x_{n-i+1} = data to n-i+1

x_i = data to-i

$\overline{x}$ = data average

By criteria:
Ho is accepted if ρ > α, then the data is normal.
Ho is rejected if ρ > α, then the data is not normal.

4. Homogeneity Test

Homogeneity test is a test of whether the variances of two or more distributions are the same. Homogeneity test was conducted to find out whether

the data in variables X and Y are homogeneous or not (Lestari & Yudhanegara, 2018). The formula used the F test:

$$F_{hitung} = \frac{S_1^2}{S_2^2}$$

(Lestari & Yudhanegara, 2018)
Information:
F = homogeneity
S_1^2 = highest difference
S_2^2 = lowest difference

By criteria:

Ho is accepted if $F_{count} < F_{table}$, then the data is homogeneous.

Ho is rejected if $F_{count} < F_{table}$, then the data is not homogeneous.

5. Statistical Hypothesis

The two sample t-test is a comparative test that aims to compare/distinguish the two variables (data) the same or different (Riduwan, 2020). This test determines the results obtained from the use of the Contextual Teaching and Learning (CTL) learning model for the experimental class and the use of conventional learning models for the control class using the pretest-posttest Control Group Design. The formula used is:

$$t = \frac{\overline{x_1} + \overline{x_2}}{s\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

(Riduwan, 2020)

Information:

n_1 = first amount of data (experimental class)

n_2 = second data count (control class)

$\overline{x_1}$ = the average value of the first data count

$\overline{x_2}$ = the average value of the second data count

s_1^2 = first data variance

S_2^2 = second data variance

By criteria:

Ho is accepted if $\rho > \alpha$, then it does not exist differences in data.

Ho is rejected if $\rho > \alpha$, then there is a difference in the data.

RESULT AND DISCUSSION

Before conducting the research, the researcher tested the test instruments and questionnaires, namely the validity test and the reliability test. Based on the results of processing the test instrument validity test data, the results obtained for all questions were stated to be valid because they fulfilled a significant value of < 0,05. Then in the questionnaire instrument the results obtained were 31 statement questions which were declared valid, namely numbers 1, 2, 3, 4, 5, 7, 8, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 25, 26, 28, 29, 31, 32, 33, 34, 35, 36, 38, and 41 because they meet a significant value of < 0,05 while there are 11 statement questions which are declared invalid, namely numbers 6, 9 , 12, 21, 24, 27, 30, 37, 39, 40, and 42 because the significant value is > 0,05.

Furthermore, a reliability test was carried out to find out that the research instrument that was made could be trusted to be used as a data collection tool. The following are the results of the reliability test of test questions and questionnaires:

Table 1. Result of the Reliability Test of Test Items

Reliability Statistics

Cronbach's Alpha	N of Items
,725	10

Based on the results of the reliability coefficient of the instrument for all variables or all test questions, a Cronbach's Alpha value of 0,725 means that the Cronbach's Alpha value is > 0,70, which means that all variables are declared reliable or meet the requirements.

Table 2. Result of the Questionnaire Reliability Test

Reliability Statistics

Cronbach's Alpha	N of Items
,930	31

Based on the results of the reliability coefficient of the instrument for all variables or all questionnaire items, the Cronbach's Alpha value was 0,930, meaning that the Cronbach's Alpha value was > 0,70, which meant that all variables were declared reliable or met the requirements.

After testing the test instruments and questionnaires, the researcher then conducted a normality test to find out whether the data for the two classes were normally distributed or not, then a homogeneity test was

carried out to find out whether the variances of the two classes were the same or different. The following data results from normality and homogeneity tests as follows:

Table 3. Result of Normality Test Data Analysis

Tests of Normality

	Kelas	Shapiro-Wilk		
		Statistic	df	Sig.
Pretest	Eksperimen	,975	32	,654
	Kontrol	,959	32	,257
Posttest	Eksperimen	,959	32	,250
	Kontrol	,971	32	,523

Based on the results of the table above, the normality test results were obtained in the experimental class 0.654 and in the control class 0,257 with a significant level of 5% $\alpha = 0,05$. It can be concluded that the data from the experimental class and the control class before the Pretest were normally distributed because the significant value was > 0,05. Based on the results of the normality test after the Posttest in the experimental class 0,250 and in the control class 0,523 with a significant level of 5% $\alpha = 0,05$ so that it can be concluded that the experimental class and control class data after the posttest are normally distributed because the significant value is > 0,05.

Table 4. Result of Analysis of Homogeneity Test Data

Levens's Test for Equality of Variances		
	F	Sig.
Nilai Pretest	,042	,839
Nilai Posttest	2,277	,136

The homogeneity test results before being given treatment (pretest) obtained F count of 0,042 with a significant value of 0,839 at a significant level of 5% $\alpha = 0,05$ and after being given treatment (posttest) obtained F count of 2,277 with a significant value of 0,136 at a significant level of 5% $\alpha = 0.05$. Based on these data it can be concluded that a significant value > 0,05 means that the two classes are not significantly different so that the variance means that the two classes being compared are homogeneous.

After the normality test and homogeneity test were carried out, the sample was normally distributed and homogeneous, then it was continued with an analysis using a hypothesis test using a t-test, to see whether or not there was an influence and difference from the use of the Contextual Teaching and Learning learning model with the direct learning model. The statistical hypothesis was carried out by comparing the learning outcomes of students between the experimental class and the control class using the t test. The following is the result of the t test calculation:

1. Differences in Learning Outcomes of the Experimental Class and the Control Class

Table 4. Result Analysis of Data on Differences in Learning Outcomes of the experimental Class and Control Class

Idependent Samples Test

	Kelas	N	Mean	Std. Deviation	ρ
Rerata	Eksperimen	32	73,63	9,220	,017
	Kontrol	32	67,88	9,476	

Based on the results of the t-test data analysis above, the mean value for the experimental class was 73,63 and for the control class was 67,88 with a significant value of 0.017 with a significant level of 5% $\alpha = 0,05$. It can be concluded that Ho was rejected because $\rho < \alpha$, so that there were significant differences in science learning outcomes between the experimental class and the control class, where the mean science learning outcomes in the experimental class using the Contextual Teaching and Learning learning model were higher than the control class using conventional learning models. In line with research conducted by (Ismoyo & Istianah, 2018) showing that the learning outcomes between the control class and the experimental class from the results of the t test calculations that have been carried out obtained $t_{count} > t_{table}$ (2,235 > 2,003) it can be concluded that there is a difference between the learning outcomes scores on control class and experimental class so that with learning using the Contextual Teaching and Learning learning model it will improve student learning outcomes. In the learning experimental class that uses the Contextual Teaching and Learning learning model, it is able to improve student learning outcomes, because the learning process relates learning material to real-world conditions that exist in their daily lives so that students experience the learning process directly through their own experiences and apply it.

In the control class the learning process was carried out less actively by asking about the material that had been delivered by the teacher. Many students do not pay attention to the delivery of material, this is because the learning model used is less attractive to students so that it makes students become inactive. The results of this study are in line with the results of the study (Budiman, 2021) which states that there are significant differences between students who are taught using the Contextual Teaching and Learning learning model and conventional learning models, the average value of the experimental class is higher than the control class so that the participants'

comprehension abilities students who are taught using the Contextual Teaching and Learning learning model are better than students who are taught using conventional learning models. Learning by using the Contextual Teaching and Learning learning model is able to increase students' understanding of concepts in learning material because in learning students are more active in building their knowledge which in the learning process students hold discussions with their study groups discussing the material and linking it to the experiences of the students themselves which aims to build their knowledge, then students can also give their opinions on the questions posed by the teacher and their study group friends so that students are expected to be able to make conclusions from the problems that have been studied.

2. Differences in Learning Outcomes Pretest and Posttest Experimental Class

Table 5. Result of Data Analysis of Differences in Learning Outcomes Pretest and Posttest Experimental Class

Paired Sampels Test

	Mean	N	Std. Deviation	ρ
Pretest	64,50	32	11,618	,000
Posttest	82,75	32	10,433	

The results of the analysis of the t-test mean that the science results in the experimental class before being given treatment (pretest) was 64,50 and after being given treatment (posttest) was 82,75 with a significant value of 0,000 at a significant level of 5% $\alpha = 0,05$. Based on these data it can be concluded that Ho is rejected because the significant value $\rho < \alpha$, meaning that there is a significant difference between the pretest and posttest in the use of the Contextual Teaching and Learning learning model. This is in line with Rusman's opinion regarding Contextual learning principles which explains that there are seven Contextual learning principles that must be developed by teachers, including: 1) Constructivism, that knowledge is built by every human being little by little which is generated and expanded through a limited context; 2) Finding, finding efforts will provide confirmation that knowledge and skills and other abilities will be obtained as a result of finding yourself; 3) Asking, the principle of asking in the Contextual Teaching and Learning learning model must be facilitated by the teacher, the habit of students to ask questions or the teacher's ability to use good asking skills; 4) Learning community, this principle gets used to working together and utilizing learning resources from study friends; 5) Modeling, this stage can be used as an alternative for teachers to develop learning so that students can meet the expectations of students as a whole and help teachers overcome their limitations; 6) Reflection, the way students think about what has just happened or has just been learned; 7) Actual assessment, assessment as an internal part of learning which has a function to obtain information on the quality of the process and learning outcomes through the use of the Contextual Teaching and Learning learning model (Amalia & Rasiman, 2019).

The results of this study are also in line with the results of research conducted by (Ahrisya et al., 2019) showing that there are differences in the average students before and after using the Contextual Teaching and Learning learning model. 71,44 then after being given treatment by applying the Contextual Teaching and Learning learning model the average posttest score is 83,22. In line with the research conducted by (Erlisnawati et al., n.d.) the results of research on student and teacher activities gave good and positive responses to the application of the Contextual Teaching and Learning model in science lessons. From the results of data analysis obtained an average pretest score of 50,0 while in the posttest 93 with the results of the t test data analysis obtained a value of 14,6 then based on the research results the hypothesis is accepted, namely there is a significant difference between the pretest and posttest after being given treatment with the application of Contextual Teaching and Learning to increase learning outcomes.

Based on the results of the research above, it can be concluded that there is a significant difference between the pretest and posttest using the Contextual Teaching and Learning learning model on science learning outcomes in elementary schools.

3. The Influence of the use of Contextual Teaching and Learning learning Models on Science Learning Outcomes

The results of the research that has been carried out show that there is an influence of the Contextual Teaching and Learning learning model on science learning outcomes on cultural diversity material for class IV SD Negeri 016 Sungai Kunjang, where in the results of the t-test analysis of the experimental class and the control class there is a significant difference in learning outcomes with using the Contextual Teaching and Learning learning model and conventional learning models. Based on the results of the t-test, it was found an increase in learning outcomes for students in the experimental class and control class. It was seen from the results of the t-test analysis in Table

4, where the mean value in the experimental class that used the Contextual Teaching and Learning learning model was 73,63, which was 73,63 higher than that of the control class. using a conventional learning model that is 67,88. From the results of the t-test analysis, the learning outcomes of the experimental class and control class can be interpreted that the Contextual Teaching and Learning learning model influences student learning outcomes.

In line with research (Budiman, 2021) stated that there was a significant influence of the Contextual Teaching and Learning learning model on science learning outcomes which was shown from the results of data analysis by comparing the experimental class and the control class, the result value was tcount> ttable or 7,123 > 1,677. This is also in line with research (A. Setyawan & Leonard, n.d.) suggesting that there is an influence of the Contextual Teaching and Learning learning model on student learning outcomes which is shown by comparing the average value of learning outcomes in the experimental class and control class with the average value in the experimental class was 16 and the average value of the control class was 13.8 so that the learning outcomes of the experimental class showed higher results than the learning outcomes of the control class students. This is also in line with research (Oktaviansa & Yunus, 2013) suggesting that the Contextual Teaching and Learning learning model has an effect on student learning outcomes. while the control class was 77,08. Based on the average difference in learning outcomes, it can be concluded that the experimental class using the Contextual Teaching and Learning learning model obtained better results than the control class using conventional learning models and was also influenced by other factors such as the environment, learning media, and learning facilities.

The results of this study are also in line with research (Rahmawati et al., 2019) which states that there is an influence of the Contextual Teaching and Learning model on learning outcomes, which shows $t_{count} > t_{table}$ (5,367 > 1,6697) at a significant level of 5%, so Ha and Ho are rejected. In line with the results of the study (Hadis, 2022) it shows that the Contextual Teaching and Learning learning model has an effect on student learning outcomes seen from the average pretest result of 63,84 while the posttest is 81,12. This is obtained from t count = 1,348 with t table 1,299 and the significance level $\alpha = 0,05$. Through hypothesis testing, namely 1,348 > 1,299, the hypothesis is accepted, namely that there is an influence of students participating in learning using the Contextual Teaching and Learning learning model with students who do not use this model.

Based on the results of the research above, it can be concluded that the use of Contextual Teaching and Learning learning models has an effect on science learning outcomes in elementary schools.

CONCLUSION

From the discussion in this study, it can be concluded that there are significant differences in science learning outcomes on cultural diversity in the experimental class and the control class. The experimental class obtained an average value of 73,63 and the control class obtained an average value of 67,88 with $\rho < 0,05$. There is a significant difference between the pretest and posttest using the Contextual Teaching and Learning learning model. Before the experiment the mean learning outcomes were 64,50 and after the experiment it was 82,75 with a significant value of 0,000 at a significant level of 5% $\alpha = 0,05$ then Ho was rejected because the significant value was $\rho < \alpha$. There is an influence of the Contextual Teaching and Learning learning model on science learning outcomes in elementary schools. Judging from the average value of differences in learning outcomes from the experimental class, the average value was 73,63 and the control class obtained an average value of 67,88 with $\rho < 0,05$.

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AUTHOR PROFILE

Jihan Nur Afifah was born on July 9, 2001 in Samarinda City, East Kalimantan. The author started his formal education in 2007 at SD Negeri 034 Samarinda and graduated in 2013, then continued to SMP Negeri 32 Samarinda and graduated in 2016. Then studied at SMA Negeri 15 Samarinda and graduated in 2019, then continued his education at university Mulawarman University State College which began in 2019 at the Teaching and Education Faculty with the Elementary School Teacher Education Study Program through the National Selection to Enter State Universities (SNMPTN). In 2021 the author took part in the Independent Campus Learning Program (MBKM), namely

the Domestic Independent Student Exchange (PMM DN) by studying for 1 semester at Malang State University. In 2022 the authors carried out Real Work Lectures (KKN) and Introduction to Schooling Fields I and II (PLP I and II) at SD Negeri 016 Sungai Kunjang.