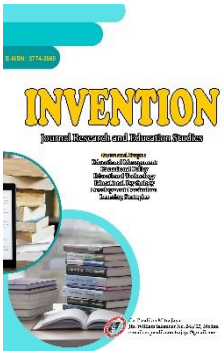

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The Effect of Contextual Teaching Learning Model on Number Material on the Motivation of Elementary School Students in Grade 1 SD N 70 Palembang

Alda Safira[1], Yusni Arni[2], Putri Nadila[3], Selly Ayu Pratiwi[4], Batistuta[5]
[1,2,3,4,5] *Universitas PGRI Palembang, Indonesia*

ABSTRACT

This study sought to ascertain how the contextual learning paradigm affected the learning results of first-graders studying addition and subtraction in mathematics classes at SD Negeri 70 Palembang. This kind of study uses a nonequivalent control group design and is a quasi-experiment. Fifty first-graders served as the research subjects. A multiple-choice exam with ten items was the tool utilized. For Window 2.6.44, data analysis was conducted using an independent T test with assistance from Jamovi. The findings demonstrated that students who received instruction using contextual learning models had a higher comprehension of mathematical concepts than students who received instruction using traditional learning models.

Kata Kunci *Model Pembelajaran, Pembelajaran Kontekstual, Pemahaman Konsep, Hasil Belajar.*

Corresponding Author: yusniarniyusuf@univpgri-palembang.ac.id

INTRODUCTION

Education is very essential in maximizing the ability of both mind and behavior, which of course education is the main guideline for pay attention to. becomes the main guideline to pay attention to. According to Ki Hajar Dewantara, the father of Indonesian National Education defines education as a main effort in providing cultured values, against cultural derivatives, but instead of preserving, but by developing towards the needs of human life. Ki Hajar Dewantara also suggested three important roles in the education sector. First, developing and maintaining the dignity of self. Second, to maintain and safeguard the nation. Third, fighting for the progress of the world. These three roles can be known as the "Tri Rahayu" philosophy. (Efendi, Muhtar, Herlambang, 2023)."

The curriculum is the main guide in an educational unit that aims to implement all learning processes, which are dynamic or constantly changing or improving by adjusting to the times. The curriculum has contained objectives

in it, starting with planning, implementing and evaluating learning which the law has said No. 20 2003 discussing the National Education System. The Merdeka Curriculum was created as part of The Ministry of Culture and Education's efforts to overcome the prolonged learning crisis that is getting worse due to the pandemic. This crisis is characterized by low student learning outcomes, even in basic areas such as literacy and numeracy. (Munir in Marhamah and Zikriati, 2008)

In this case, the Independent Curriculum gives freedom to education units in each school, namely teachers, and students so that they can develop learning. One of the things that needs to be developed in this independent curriculum is differentiated learning. According to Purnawanto, Ahmad Teguh 2023 states that differentiated learning theory is an effective paradigm, but it is also a challenge for educators to be more innovative in analyzing the needs, characteristics, learning styles and ability levels of each student.

One of the things that needs to be considered in the The model of learning constitutes the learning process. By applying a varied learning model, it will reduce the level of boredom of students and will increase student motivation in participating in the learning process. in the learning process the teacher has not used varied learning models and media. One model that can be used The Contextual Teaching and Learning methodology aims to improve student learning results.. This learning model is a comprehensive system consisting of a fraction that is interrelated. can improve students' learning outcomes-focused thinking abilities, as students are taught to notice, question, try, reason, and communicate, In general, learning outcomes are seen from three aspects, namely cognitive, affective and psychomotor aspects. Broadly speaking, a student is said to have successfully achieved learning objectives if he shows changes in the aspects of knowledge, attitudes and skills for the better from before. Suvriadi in Arni, (2024)

Learning objectives are the manifestation of abilities because of behavioral shifts made by educational efforts. Elements that impact learning results can be categorized as internal and external factors. Internal factors are those that originate from the students themselves and influence their learning capabilities. These internal elements encompass intelligence, curiosity and concentration, motivation to learn, determination, mindset, study practices, and overall health and physical condition. On the other hand, external factors refer to influences that arise from outside the students, affecting their learning achievements, such as family, educational institution, and society. When the Contextual Teaching and Learning learning paradigm is used, it will be more effective and attract

students' attention, if supported by the use of video media in accordance with the learning delivered. Purwanto (2011:49),

The term "contextual" is derived from the word "context," which refers to relationship, context, atmosphere, and situations. According to Rahman (2020), contextual teaching model is a holistic learning approach that aims to enable learners to understand subject matter meaningfully by relating it to real life, including their personal, religious, social, cultural, economic and other environments. Thus, students can gain understanding and skills that can be applied and transferred from one problem to another. Based on Sulfemi's research (2019), it shows that the application of the contextual teaching learning (CTL) model provides practical experience, encourages higher-level thinking, focuses on students as the center of developing critical and creative thinking skills, provides knowledge that is relevant to everyday life, and has the potential to change behavior and improve knowledge.

Mathematics plays an important role in education, especially for elementary school students because it helps develop logical, analytical, and systematic thinking skills. Mathematics is also the foundation for other disciplines, such as physics, chemistry, biology, and computer science. Makhmudah in Lusita & Hasanah, (2023). These abilities are in fact not only needed in the academic context, but in real life mathematics is also the basis for decision making, problem solving or problem solving and plays a role in resource management. However, there are still many elementary school students who have difficulty understanding mathematical concepts. Dinda, et al (2021). Therefore, a learning model is needed that can invite students to delve deeper into the concepts in learning mathematics.

Contextual learning has been proven to improve students' ability to understand concepts. (Maryati in Brinus, Makur and Nendi, 2019) This is also reinforced by research conducted by Brinus, Makur and Nendi related to contextual learning at SMP Negeri 4 Langke Rembong in the 2018/2019 school year by concluding that there is an increase in student ability which is quite significantly different when compared to conventional learning as usual. This can occur because the contextual learning model has a connection between the material that has been learned and the real situation or daily life of students. So that it is very suitable to be applied in learning activities which in turn will affect the learning outcomes of students.

In addition, this is supported in a preliminary study at Gugus I Elementary School in Negara Subdistrict in 2019 showing that the average Mathematics learning outcomes obtained are still not optimal when using conventional learning models. From this research, a change in education in

Indonesia is needed by applying a learning approach. The approach used in improving math learning outcomes is the Contextual Teaching Learning approach. In this approach, learning activities prioritize and correlate to real life and are accompanied by the use of concrete media and adjust to the learning style of students. (Lestari, 2019)

Then it is also reinforced by research conducted (Saingo, Yuniasih, Iswahyudi, 2022) at SD Negeri Bandungrejosari 1 Malang, showing that the learning carried out tends to be teacher-centered using assignment and lecture methods. This causes low student interest in learning which can affect learning outcomes. Therefore, students really need innovation and fun learning media to improve learning outcomes optimally by applying contextual learning models.

Conceptual and procedural knowledge by adjusting to the characteristics of students, especially elementary school students who have entered the concrete operational phase according to Jean Piaget's theory. In addition, teachers also have a role in the learning process, namely they must be able to manage the class by creating an interesting learning atmosphere that is easily understood by students. If the teacher has implemented a learning model that is in accordance with the characteristics of students, learning outcomes can be pursued both in terms of cognitive, affective and psychomotor abilities. Yayuk (2019)

Based on the explanation above, the contextual learning model needs to be applied in class 1 of SD Negeri 70 Palembang, conceptual learning is different because it uses examples of problems and involves students' thinking activities in understanding the material by correlating it to the surrounding environment. Through this learning, students are more motivated to express opinions, understand concepts, be active in asking questions and improve learning outcomes. The material chosen in this study is addition and subtraction for grade 1 students.

According to the description provided above, the researcher aims to see the mathematics learning outcomes of elementary school students by using the contextual teaching learning model at SD Negeri 70 Palembang in the 2024/2025 school year.

RESEARCH METHOD

This study utilizes a quantitative method. The form of research used is experimental study (quasi-experiment), utilizing a control group that is not equivalent in design. (Adim, Herawati, Nuraya, 2020) In accordance with the focus of the problems discussed in this research aims to assess whether or not there is an effect of the model on learning outcomes after a treatment is carried

out. This research was conducted in class V of State Elementary School 70 Palembang. The number of subjects of this study, namely 50 students consisting of parallel classes. The class used for the experiment was class 1A while class 1B was used as the control class.

This investigation is an experimental analysis. The experiments were carried out on established study groups (classes) because it was not possible for researchers to change the existing class structure. Thus, this research is categorized as a quasi experiment. This research was conducted to determine and elucidate the impact of contextual learning implementation on learning outcomes in mathematics after the control of verbal and numerical skills. Thus, the research data analysis Covariate analysis was employed in a Dantes (2017) proposes a single-factor independent group design.

Tabel 1.
Equivalent Control Group Design

Kelompok	Pretest	Treatment	Posttest
A	O_1	X	O_2
B	O_3		O_4

(Source: Nilasari, Djatmika, Santoso, 2016)

Description :

A = Experimental group

B = Control group

O1 = Pretest of experimental group

O2 = Posttest of experimental group

X = Treatment through the use of contextual learning modules

O3 = Pretest of control group

O4 = Posttest of the control group

According to the description in the table above, it shows that in the initial stage, the control class group and the experimental class group were given pretest questions. After being given the next question, the experimental class group is given treatment, then after being given treatment, a posttest question will be given. The control class was not given treatment by the researcher, while the second group, namely the experimental class was given treatment using a contextual learning module. After the treatment is carried out, the next step is to give post test questions to both control and experimental class groups to determine student learning outcomes.

For data collection in the cognitive domain used by researchers is an objective test method in the form of multiple choice questions consisting of 10 items consisting of 3 options. The test instruments used in this test have met the eligibility test requirements, namely the validity, reliability, differentiating

power and difficulty test. The data collecting method employed is by using a test instrument. The data collected was then analyzed with the help of the Jamovi for Window current 2.6.44 program. This was done by researchers to determine the difference in student learning outcomes, which was previously carried out an independent t test to see the comparison of the average results of the control class and the experimental class. The following are the stages of analyzing the average difference test including normality test, homogeneity test and t-test.

Normality Test

Normality test is a test used to assess whether a group's data distribution is normally distributed or not so that it can be used in parametric statistics. For normality testing is done using the Jamovi for windows software program using the Kolmogorov Smirnov test statistical test, what is tested is the pretest value and post test value of each control class and experimental class. Data can be said to be normally distributed if the probability value or p> the significance level (α), where α is 0.05.

Ningsih, et al (2024) revealed that the normality test is very important because it correlates with the determination of the statistical test to be used, in the test, requiring the data to be normally distributed. However, if the data is not normally It is advised to employ non-parametric statistical methods tests. In conducting hypothesis testing, parametric statistical methods already have provisions, namely as follows:

1. The sample must be normally distributed
2. Sample variances must be the same
3. The data scale must be interval
4. Sampling must be done randomly

Homogeneity Test

Homogeneity test is a method used in order to find out whether some population variants are the same or not. The test can first be done with the F test. Then, if Fcount < F table then the population variants are homogeneous. But on the contrary, if Fcount> F table, the population variance is not homogeneous. After the data is declared homogeneous, the next step is to test the hypothesis using the t-test independent paired sample.

The data compared were the results of the posttest of the control class and the experimental class. Furthermore, the t-test was conducted using the Jamovi for Window current 2.6.44 program. The posttest values of the experimental class and control class will be tested. With a significance level of 0.05 (5%) the comparison criteria if H0 is accepted if t count < t table and rejected H0 if t count > t table with df (n1 + n2-2).

RESULT AND DISCUSSION

The data used in this study are learning outcomes that focus on the cognitive domain. Data related to cognitive aspects were obtained through answers from tests of students' knowledge of addition and subtraction materials. The test was conducted before and after the application of contextual learning modules to grade 1 students. The Pretest's outcomes score analysis of the control and experimental groups are as shown in table 2 below.

Table 2.
Pretest Descriptive Data Analysis

Group Statistics				
kk.eks Mean	**N**	**Mean**	**Std. Deviation**	**Std. Error**
Pretest kk	25	53.2	9.88	1.98
Pretest eks	25	60.4	12.7	2.55

From the pretest data, the average acquired in the control class was 53.2 with a standard deviation of 9.88. Pretest results in the experimental class obtained an average of 60.4 with a standard deviation of 12.7. It can be concluded that the average pretest learning outcomes of the control class is smaller than the experimental class before treatment. The results of the mean difference test using the independent t test are shown in table 2

Table 3.
Independent T Test Analysis Results Pretest Learning Outcomes

	F	**df**	**df2**	**p**
B	2.02	1	48	0.161

Based on these findings, it is evident that the p value = 0.161. p value> 0.05. so H0 is accepted. Thus it can be concluded that they can possess the same variance. Analysis of the results of research data processing obtained that the average post test of student learning results in the experimental class was 92.0 with a standard deviation of 12.1. Meanwhile, The mean score after the test learning outcomes in the control class was 71.6 and a standard deviation of 9.13. Thus, The mean post-test learning results in the experimental group were greater than those in the control group. The following is table 4 of the average post test results.

Table 4.
Descriptive Data Analysis

Group Statistics				
kk.eks Mean	**N**	**Mean**	**Std. Deviation**	**Std. Error**

Postest kk	25	71.6	12.1	2.43
Postest eks	25	92.0	9.13	1.83

The posttest results were normally distributed and homogeneous. An independent t-test was then performed conducted in order to verify the theory of this study. The results of the hypothesis test are shown in table 5.

Table 5.
Posttest Independent T Test Analysis Results

	F	df	df2	p
B	**2.17**	**1**	**48**	**<0.01**

Table 5 shows the outcomes of the independent t test analysis indicate that there are differences in the learning outcomes test results between the control class and the experimental class. This can be seen based on the probability value = 0.01 <0.05, so H0 is rejected. Furthermore, the research hypothesis is answered, namely that there is an effect of using contextual learning modules on the learning outcomes of grade 1 elementary school students. Therefore, it can be concluded that contextual learning modules have an impact on the educational results of fifth grading students of SD Negeri 70 Palembang.

Hypothesis Test 2 Average (Independent sample t test)

The t test for independent samples is used in determining if there is an influential statistical difference between two groups of independent samples. The t test evaluates and contrasts two of each group. It should be noted that these two groups of data are independent or not interconnected. In parametric testing, there are several assumptions that are used as prerequisites in the test. The independent sample t test requirements are arranged as follows:

1. Variables are categorized into two categories, one independent of the other.
2. The test or dependent variable is presented continuously, either in the form of intervals or ratios.
3. The variable being tested must be normally distributed.
4. The category variable has the same variance as the test variable. Ningsih, et al (2024)

CONCLUSION

In light of the studies that have been conducted, descriptively the Students' learning results in mathematics who take part in learning with a contextual approach are better than groups of students who take part in learning with a conventional approach, especially in addition and subtraction

material. This is evident from the t-test findings using an independent t-test on the posttest results in the control and experimental classes showing the probability value or p value (0.01) less than the significance value (0.05) so that Ho is rejected. So that there is, there are differences in learning outcomes using the contextual teaching learning model. Therefore, We can conclude that contextual factors have an impact. modules on student learning outcomes, so that the research hypothesis is answered The findings of this investigation align with the hypothesis of contextual learning where contextual learning makes it easier for students to understand lessons in accordance with the real conditions around students. According to Blanchard in Nilasari, Djatmika, Santoso (2016) states that contextual teaching allows students to strengthen, apply and expand their academic knowledge and skills in solving problems in real life.

According to the findings of the analysis done on the study data, Students have different learning results. when contextual learning modules are used. Therefore, the contextualized teaching and learning paradigm has an impact Regarding the learning outcomes of first-graders. The control class learning results posttest average score of 71.6 is lower than the experimental class learning results posttest score of 92.00, indicating the impact. Additionally, Ho is rejected based on statistical analysis utilizing the independent t test with Jamovi's assistance for Window current 2.6.44, which yields significant findings (p value = 0.01 <0.05). Thus, it can be said that grade 1 students' learning results in mathematics curriculum at SD Negeri 70 Palembang are impacted by the use of contextual learning models.

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