

Learning Outcomes of Class VI Elementary School Students on Operational Materials Count Integers During a Pandemic Covid-19

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ABSTRACT

The inability of students to do arithmetic operations on integers will cause problems for them in learning other mathematical material. The above review is the reason why the author is interested in conducting this research. The problems that occur are not only in the learning media system, but the availability of quotas that require a fairly high cost for students and teachers to facilitate online learning needs. The quota purchased for internet needs has soared and many parents are not ready to increase the budget in providing internet networks. This is also a very important issue for students, what time do they have to study and what data (quota) they have, while their parents are low-income or from the lower middle class (poor). Until finally things like this are charged to parents of students who want their children to continue to follow online learning. Online learning cannot be separated from the internet network. Internet network connection is one of the obstacles faced by students whose residence is difficult to access the internet, especially those students who live in rural, remote and disadvantaged areas. Even if someone uses a cellular network, sometimes the network is unstable, because the geographical location is still far from the reach of the cellular signal. This is also a problem that often occurs in students who take part in online learning so that its implementation is not optimal.

The purpose of this study was to determine student learning outcomes in integer arithmetic operations in grade VI SD during the Covid-19 period. The research subjects were students of class VI SD, totaling 11 students. The data in this study are quantitative data, namely student scores obtained from test results. The data obtained were analyzed using the t test. Hypothesis testing was carried out using the left-hand side test at the real level = 0.05. The results of the study show that: the learning outcomes of class VI students on the material for counting integer operations during the Covid-19 pandemic reached the level of success, but if we investigate thoroughly there are still students who have not reached the level of succ

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INTRODUCTION

Efforts are being made to prevent the Covid-19 pandemic, the government has issued a policy so that schools ask their students to study at home. Starting March 16, 2020, the school implemented the online student learning method. Then, is this online learning effective? Currently Corona is a hot topic of discussion. In any hemisphere, corona still dominates the public sphere. In a short time, his name became a trending topic, discussed here and there, and was reported massively in print and electronic media. Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-COV-2) better known as the corona virus is a new type of coronavirus that causes infectious disease to humans.

Covid-19 is an infectious disease caused by a newly discovered type of coronavirus. Although it mostly attacks the elderly, this virus can actually attack anyone, from infants, children, to adults. This corona virus can cause mild disorders of the respiratory system, severe lung infections, and even death. Corona Virus Disease 2019 (COVID-19) was first discovered in the city of Wuhan, China at the end of December 2019. This virus spreads very quickly and has spread to almost all countries, including Indonesia, in just a few months. So that on March 11, 2020 WHO declared this outbreak a global pandemic.

This has made several countries set policies to impose lockdowns in order to prevent the spread of the corona virus. In Indonesia itself, a Large-Scale Social Restriction (PSBB) policy was implemented to suppress the spread of this virus. Because Indonesia is currently implementing PSBB, all activities carried out outside the home must be stopped until this pandemic subsides. Some local governments have decided to implement policies to leave students and start implementing online learning methods (online) or online. This government policy came into effect in several provinces in Indonesia on Monday, March 16, 2020, which was also followed by other provincial areas. But this does not apply to some schools in each region. These schools are not ready with an online learning system, which requires learning media such as mobile phones, laptops, or computers.

The online learning system (on the network) is a learning system without face to face directly between teachers and students but is carried out online using the internet network. Teachers must ensure that teaching and learning activities continue, even though students are at home. The solution, teachers are required to be able to design learning media as an innovation by utilizing online media (online). This is in accordance with the Minister of Education and Culture of the Republic of Indonesia regarding Circular Letter Number 4 of 2020 concerning the Implementation of Educational Policies in the Emergency Period for the Spread of Corona Virus Disease (COVID-19). The learning system is implemented through a personal computer (PC) or laptop connected to an internet network connection. Teachers can do learning together at the same time using groups on social media such as WhatsApp (WA), telegram, Instagram, zoom applications or other media as learning media. Thus, the teacher can ensure that students take part in learning at the same time, although in different places.

All sectors are feeling the impact of corona. The world of education is one of them. Judging from the surrounding events that are happening, both students and parents who do not have cellphones to support online learning activities feel confused, so the school is looking for solutions to anticipate this. Some students who do not have mobile phones study in groups, so that they also carry out learning activities together. Start learning through video calls that are connected with the teacher in question, being asked questions one by one, to taking attendance through VoiceNote available on WhatsApp. The materials are also provided in the form of videos that are less than 2 minutes long.

The problems that occur are not only in the learning media system, but the availability of quotas that require a fairly high cost for students and teachers to facilitate online learning needs. The quota purchased for internet needs has soared and many parents are not ready to increase the budget in providing internet networks. This is also a very important issue for students, what time do they have to study and what data (quota) they have, while their parents are low-income or from the lower middle class (poor). Until finally things like this are charged to parents of students who want their children to continue to follow online learning. Online learning cannot be separated from the internet network. Internet network connection is one of the obstacles faced by students whose residence is difficult to access the internet, especially those students who live in rural, remote and disadvantaged areas. Even if someone uses a cellular network, sometimes the network is unstable, because the geographical location is still far from the reach of the cellular signal. This is also a problem that often occurs in students who take part in online learning so that its implementation is not optimal.

Many on various social media share the experiences of parents while accompanying their children to study, both positive and negative. For example, it turns out that there are parents who are often angry because their children are unruly so that they can't stand it and want their children to go back to school. This incident gave awareness to parents that educating children is not easy, it requires a lot of knowledge and patience. So with this incident parents must be aware and know how to guide their children in learning. After getting this experience, it is hoped that parents will learn how to educate their children at home. It should be realized that the unpreparedness of teachers and students towards online

learning is also a problem. The shift from conventional learning systems to online systems is very sudden, without proper preparation. But all of this must be carried out so that the learning process can run smoothly and students actively participate even in the conditions of the Covid-19 pandemic. The stuttering of online learning is evident in front of us, not just one or two schools, but throughout several regions in Indonesia. Very important components of the online learning process need to be improved and improved. First and foremost is a stable internet network, then a capable device or computer, an application with a user friendly platform, and online socialization that is efficient, effective, continuous, and integrative to all education stakeholders. The solution to this problem is that the government must provide a policy by opening free online application services in collaboration with internet and application providers to assist this online learning process. The government must also prepare curriculum and syllabus for online-based learning. For schools, it is necessary to conduct online technical guidance (bimtek) on the online implementation process and to disseminate information to parents and students through print and social media regarding the procedures for implementing online learning, in relation to their roles and duties.

In the online learning process, it is important to add educational messages to parents and students about the Covid-19 pandemic outbreak. Thus we find the same learning with face-to-face but online-based. The effect is very good, the program is right on target, and the learning outcomes are achieved. Today, the quality or quality becomes very important in the world of education. We all admit that currently there are problems in the education system in Indonesia. High school graduates and even college graduates are not ready to meet the needs of society. Students or students are not ready to become productive citizens, which will eventually become a burden on society. The existence of graduates from educational institutions that are not qualified will have an impact on the criminal justice system, because they are not ready to meet the needs of future generations, which in the end they become citizens who feel alienated from their society.

According to Arcaro (2005:75) "Quality is a structured process to improve the output produced". Talking about the quality of education, what is often discussed is improving grades or report cards. In this way, the responsibility for improving the quality of education lies more with the teacher. In general, teachers focus only on the educational aspects of a student; help students learn and gain knowledge. According to Arcaro (2005: 76) "Quality schools are schools that apply quality standards for every series of work in the whole work process. When workers achieve quality standards for each set of work, the end result is a quality product."

In relation to the description that has been stated above, then one of the problems faced by the world of mathematics education today is the low quality and quality of the mathematics learning process. According to Sanjaya (2008: xiii) said that "In the learning process, children are less encouraged to develop thinking skills. The learning process in the classroom is directed at the child's ability to memorize information; the child's brain is forced to remember and store various information. With the method mentioned in this quote, the process of learning mathematics in class has rarely been connected with everyday life. As a result, when students graduate from school they are only smart in theory but they are poor in application.

This fact applies to all subjects including mathematics. In learning mathematics, we often find that teachers often force their students to memorize multiplication and division tables. However, in daily life, even though students have memorized the multiplication and division tables well, they are confused about how much to pay when they are asked to buy 3.5 kg of flour at a price of one kilo of Rp. 13.500,- Symptoms of this kind are common symptoms of the results of our education process. Education in schools overloads students' brains with various teaching materials that must be memorized; our education is not directed to build and develop character and potential. In other words, our educational process has never been directed to form intelligent human beings, has the ability to solve life's problems, and is not directed to form creative and innovative humans.

The use of mathematics or arithmetic in everyday human life has shown tangible results as the basis for engineering design, such as calculations for space development, in addition, mathematical methods provide inspiration to social and economic thinking and can provide color to architectural painting activities. and music. According to Simajuntak (1993: 64) states "Knowledge of mathematics provides the language, processes and theories that provide science a form of power, which in the end that mathematics is one of the main forces for forming the conception of nature as a human nature and purpose in life".

Mathematics is a branch of basic science that plays an important role in the development of science and technology (IPTEK). Therefore, from an early age, students have been provided with mathematical knowledge at school, starting from the pre-school level to high school and continuing at the tertiary level. However, until now there are still many parties who are not satisfied with the results of learning mathematics in schools, both in terms of the learning process and from the results of student learning. According to Pambudi (2007:39) "that the failure of students in mastering mathematics at school is due to the lack of good learning processes carried out by teachers"

In the mathematics curriculum in elementary schools today, mathematics subjects are more directed to the field of arithmetic. One of the mathematics discussions in class VI is concerned with integer arithmetic operations, which are related to addition, subtraction, multiplication, and division problems. Handoko (2006:1) stated that the objective of learning integer arithmetic operations was "1). Students are able to use the properties of arithmetic operations including mixed operations, GCF and LCM. 2). Students can determine the cube root of a cubic number, and 3) students are able to solve problems involving arithmetic operations including the use of roots and exponents.

In many ways, many students have difficulty in arithmetic operations with integers. As it is known that arithmetic operations involve addition, subtraction, multiplication and division operations. In addition, the material for integer arithmetic operations in class VI also discusses mixed arithmetic operations with integers, determining GCF and KPK, finding square roots and cube roots. In the reality that we encounter in the daily field, there are most students who do not fully understand the use of arithmetic operations on integers, many students always make mistakes in solving arithmetic operations problems on integers. For example, many students have not been able to correctly answer the form of calculations such as $2 + 6 \times 2$: 3.

As has been explained, one of the problems in the mathematics material taught in grade VI Elementary School (SD) is the use of arithmetic operations on integers. Commonly used arithmetic operations are: Add (+), subtract (-), times (x) and divide (:). The ability of students to use arithmetic operations on integers greatly affects the success of the students in learning the overall mathematical material. The inability of students to do arithmetic operations on integers will cause problems for them in learning other mathematical material. In addition, if students do not understand well arithmetic operations on integers, then they will certainly not be able to solve mathematical problems, and furthermore they will experience difficulties in using arithmetic operations in complex algebraic forms. .

Although the use of arithmetic operations on integers is presented almost every day in every mathematics material, many students have not been able to operate arithmetic operations on integers correctly, especially in the form of mixed arithmetic operations. Many students have difficulties in learning mathematics due to their inability to use arithmetic operations of addition, subtraction, multiplication, and division on integers.

METHOD

The subjects in this study were 11 grade VI elementary school students. The data in this study were quantitative data, namely student scores obtained from test results. The instrument used in this study was a test. The test questions are made in the form of multiple choice with a total of 20 items. Each question that is answered correctly is given a value of 5, so the expected value is 100 if the student can answer all the questions correctly. Hypothesis testing is done by using the left-hand side test at the real level = 0.05

RESULT AND DISCUSSION (10 PT)

Based on the test results data on the integer arithmetic operation material, a frequency distribution table is made as shown in Table 1.

Table 1. Frequency Distribution of Grade VI Elementary School Students

Interval Kelas (I)	f_i	Titik tengah Kelas (x_i)	$f_i x_i$	x_i^2	$f_i x_i^2$
50 - 59	3	54.5	163.5	2970.25	8910.75
60 - 69	2	64.5	129	4160.25	8320.5
70 - 79	3	74.5	223.5	5550.25	16650.75
80 - 89	2	84.5	169	7140.25	14280.5
90 - 99	1	94.5	94.5	8930.25	8930.25
	11		779.5		57092.75

In Table 4.1, it is obtained that $f_i = 11$, $f_i x_i = 779.5$, and $f_i x_i^2 = 57092.75$, so that the average student score is: = 70.86 So the average value of students on integer arithmetic operations material is 70.86. The standard deviation of students' scores in the number operations material is 13.62. Taking into account the results of the calculations that have been carried out, namely $t_{count} = 1.542$, while at the real level = 0.05 and degrees of freedom $db = n-1 = 11-1 = 10$, the value of t table = 1.812 is obtained. Thus $t_{count} > -t$ table or $1.542 > -1.812$. Thus we must accept the null hypothesis (H_0) and reject the alternative hypothesis (H_a). The conclusion of the hypothesis testing results show that: Student learning outcomes in counting operations with integers in grade VI SD reached the level of success.

Paying attention to the research results obtained in this study, namely: Student learning outcomes in counting operations with integers in grade VI SD have reached the level of success. The results of the study explain to us that the learning of integer operations in grade VI elementary school has taken the right path. The results of the researchers' observations in elementary schools showed that the mathematics teacher who taught in grade VI SD had long teaching experience and was a senior teacher at the school.

With a small number of students, namely 11 people, it is also possible that the mathematics learning process carried out in class VI will be well organized, and this will also greatly affect the learning outcomes obtained.

As stated by Pambudi (2007:39) "that the failure of students in mastering mathematics at school is due to the lack of good learning processes carried out by teachers". Based on this quote, if the mathematics learning process carried out by teachers at SD Ujong Leubat has been good, the results of learning mathematics will also be good, and of course students have no difficulty in learning integer arithmetic operations.

Student learning outcomes on integer arithmetic operations in class VI who reached the successful stage showed that mathematics was not difficult for students to learn. As long as the various factors that affect student learning outcomes must always be well controlled. It has been mentioned above that the teacher is one of the factors that influence the results of this study, of course there are many other factors besides the teacher factor. This of course needs further research on this problem, so that the results of this study can describe the actual state of learning outcomes in elementary school.

From the results of statistical tests that have been carried out, it can be $= 70.86$. This shows that the average value achieved by fourth grade elementary school students exceeds the KKM (Minimum Completeness Criteria) which is 65. Next, pay attention to the value of $t_{count} = 1.542$ and the value of $t_{table} = 1.812$, here we see that the value of $t_{count} > -t_{table}$ (because the left-hand test is used) or $1.542 > -1.812$. Taking into account the average scores achieved by students and also from the t-test, we can say that: the learning outcomes of class VI students on the operating material for counting integers during the Covid-19 pandemic reached the level of success, but if we investigate thoroughly there are still students who has not yet reached the level of success.

Social distancing and physical distancing policies to minimize the spread of COVID-19 encourage all elements of education to activate classes even though schools are closed. Closing schools is the most effective mitigation measure to minimize the spread of the epidemic in children. The solution given is to apply home learning with

take advantage of various supporting facilities. During the COVID-19 pandemic, learning at home or online is a solution to continue the rest of the semester. Online learning is defined as a knowledge transfer experience using video, audio, images, text communication, software (Basilaia & Kvavadze, 2020) and with the support of the internet network (Zhu & Liu, 2020). This is a modification of knowledge transfer through website forums (Basilaia & Kvavadze, 2020) and digital technology trends as a hallmark of the industrial revolution 4.0 to support learning during the COVID-19 pandemic. Technology integration and various innovations are the hallmarks of online learning (Banggur et al., 2018). In addition, the most important thing is the readiness of educators and students to interact online.

CONCLUSION

Based on the results of research and data analysis that has been carried out, the average value $= 70.86$ with $t_{count} = 1.542$, while $t_{table} = 1.812$. So that $t_{count} > -t_{table}$ or $1.542 > -1.812$. Thus, it can be concluded that the learning outcomes of grade VI students on the material for counting integer operations during the Covid-19 pandemic reached the level of success. but if we explore thoroughly there are still students who have not reached the level of success

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