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Application of Drill and Practice Method Assisted by Google Form to Improve Students' Accuracy in Mathematics Learning

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Abstract
This study aims to find out how to apply the Drill and Practice Method using Google form media in learning mathematics in fraction material in class IV SDN Tmbang Langsa. The application of the drill and practice method is because at Timbang Langsa Elementary School the students still experience difficulties when participating in learning mathematics about fractions. The research method used is experimental, a type of quantitative research using interview and observation documentation. The subjects of this study were 15 students at SDN Timbang Langsa, and class IV teachers. The results of this study are the Google Form-based Drill and Practice Method applied at SDN Timbang Langsa because, during the pandemic, students and teachers are connected via the Google form on their respective cellphones. Google Form-based Drill and Practice is implemented by giving questions and exercises repeatedly.

Keywords: Drill and Practice, google form, fraction

Abstract (Indonesian)
Penelitian ini bertujuan untuk mengetahui bagaimana penerapan Metode *Drill and Practice* menggunakan media geoogle form pada pembelajaran matematika materi pecahan di kelas IV SDN Timbang Langsa. Penerapa metode drill and pratice ini karna di SD Timbang langsa siswanya masih mengalami kesulitan saat mengikuti pembelaaran matematika materi pecahan. Metode penelitian yang digunakan adalah eksperimen, jenis penelitian kuantitatif dengan menggunakan dokumentasi wawancara dan observasi. Subjek penelitian ini adalah peserta didik SDN Timbang Langsa berjumlah 15 siswa, dan guru kelas IV. Hasil penelitian ini adalah Metode Drill and Practice berbasis *google form* diterapkan di SDN Timbang Langsa karena sedang masa pandemi, peserta didik dan guru terhubung lewat geoogle form yang ada di handphone masing-masing. Drill and Practice berbasis Google Form diterapkan dengan pemberian soal dan latihan secara berulang-ulang.

Kata Kunci: *Drill* and *Pratice, Google Form,* Pecahan.

A. Introduction

According to Masykur and Fathani quoted from (Indriani & Imanuel, 2018) mathematics is a universal science that underlies the development of modern technology, has an important role in various disciplines, and develops human thinking. To master and create technology in the future, strong mastery of mathematics is needed from an early age. On that basis, math lessons need to be given to all students since elementary school (SD), to equip students with the ability to think logically, analytically, systematically, critically, and creatively, and the ability to work together. According to Susanto quoted from Fidayanti (Fidayanti et al., 2020), mathematics is one of the disciplines that can improve thinking and argumentation skills, and provide support and development of science and technology (Khairani et al., 2021; Noor & Husna, 2017; Sholekah & Waluyo, 2017). Therefore, mathematics is considered important in improving a person's thinking ability and improving in terms of argumentation or communication in relation to problem-solving in everyday life.

According to Sholihah, mathematics is a subject given to all levels starting from elementary school to equip students with the ability to think logically, analytically, systematically, critically, and creatively, as well as the ability to work together (Sholekah & Waluyo, 2017). This is because mathematics is a source of other sciences, in other words, many sciences whose discovery and development depend on mathematics, so that mathematics subjects are very useful for students as a basic science for application in other fields. In addition, students are also expected to achieve the objectives of learning mathematics itself, as stated in Permendiknas Number 23 of 2006.

Susanto (Fidayanti et al., 2020) explains that the purpose of learning mathematics at school is intended so that students are not only skilled in using mathematics but can provide students with the pressure of structuring reasoning in the application of mathematics in everyday life in the midst of the life of the community they live in. From several descriptions, it can be

concluded that mathematics is an exact science that discusses mathematical ideas and concepts that are communicated in oral and written form related to problem-solving in everyday life.

Learning mathematics is essentially doing mental activities. In learning mathematics, students are required to prepare mentally in the process of receiving new knowledge (Khairani et al., 2021). Therefore, in teaching mathematics teachers should create a pleasant atmosphere, so as to achieve the desired results. Every teacher is required to improve their students' competence in every lesson. Basically, the purpose of teaching is to make the desired changes in student behavior (Crismono, 2017). Therefore, teachers must try to create suitable strategies because, in a meaningful teaching and learning process, student involvement is very important (Fakhrurrazi, 2018; Nurdyansyah & Fahyuni, 2016; Syaparuddin et al., 2020).

Based on the results of surveys and interviews with Class IV students at SDN Timbang Langsa, math lessons are lessons that are less engaging and difficult for students to understand. Learning still often uses conventional methods making students only objects, where students only listen and listen, on the other hand, students also lack practice in solving math problems. From these actions, students feel bored, and bored so that the concentration on learning is not focused. The problem encountered by teachers during learning is that many students tend to be silent, only listen to explanations from the teacher, and do not want to ask if there is material that has not been understood.

Although conventional learning is not an inappropriate learning model to apply, it is only less than optimal in its implementation (Jaelani & Aisyah, 2017; Sudarsana, 2018). Another problem is that when working on problems students are still fixated on example problems so that they are not able to work on problems that are different from the example problems given by the teacher (Elfiah et al., 2020; Unaenah & Sumantri, 2019; Winarti, 2017). This is also an indicator of learning outcomes. Based on interviews with teachers, in addition to conventional learning models, teachers also sometimes apply

cooperative learning models, cooperative learning models, and expository models can actively involve students in learning. However, the cooperative learning model has not provided maximum learning outcomes. Cooperative learning models often make it difficult for quiet students to interact and be active in group learning. The utilization of smartphones that are fairly easy to carry, easily accessible, and affordable as media in learning will greatly impact students (Kim et al., 2013).

One of the efforts to overcome the above problems is the need for a learning method that is expected to be used as a means of delivering knowledge to students effectively. The learning method that is expected to train the ability to think and can overcome the difficulties in learning students who on average get a competent predicate on good math learning outcomes is by using the Drill learning method. The Drill learning method is a learning method that teaches students to carry out problem-training activities so that students are accustomed to solving varied problems. The Drill method is learning where students carry out training activities so that students have higher dexterity or skills than what has been learned (N. Sari & Maryatun, 2016),

The drill method is an activity of doing the same thing, repeatedly in earnest with the aim of perfecting a skill so that it becomes permanent. The distinctive feature of this method is the activity in the form of repeated repetition of the same thing" (Sudjana, 2010). In learning math, itself, the drill method is very necessary, especially considering that math subjects on fraction material itself are less fun for children because they are quite difficult on fraction material which has various ways of calculating it. The drill method is also called practice which is intended to gain dexterity and practice skills on what is learned, because only by doing it practically can knowledge be perfected and prepared. (Jaelani & Aisyah, 2017). The drill method which is done repeatedly is very suitable for the needs of students who need a lot of practice questions in order to form student habits. This method can also improve students' dexterity, skills, speed and accuracy in

working on problems that vary from simple to complex. Students' dexterity, skills, speed, and accuracy are needed in mathematics learning and have an influence on student learning outcomes (Astuningtias & Appulembang, 2017; T. N. Sari & Appulembang, 2019).

There are many innovative learning media that can be used for students to learn and attract student motivation to learn math. One of these media is Google Forms Android media. Google Forms is part of the Google Docs component provided by the technology giant Google. In addition, Google Forms is software that can be accessed for free and is quite easy to operate. This media is an idea from the utilization of media that is currently current and according to Permendikbud No. 109 of 2013 quoted from Naila (Naila & Khasna, 2021) About Distance Learning defines electronic learning as a form of learning that utilizes information packages based on information and communication technology for learning purposes that can be accessed by students without any distance and time limitations that require learning to be done online.

This research was also conducted based on previous research, namely from research conducted by Ellysa Kurniawati et al, entitled Interactive Learning Media for Fraction Mathematics Using Macromedia Flash 8 at SDN Buah Gede. This research uses the drill and practice method by utilizing Macromedia Flesh in the strategy of repeating fraction material at SDN Buah Gede (Kurniawati et al., 2019). Another study was conducted by Sutiyah with the title Improving Student Learning Outcomes Through the Drill Method of Round Number Count Operations and Problem Solving in Mathematics Subjects in Class V Sdn 165726 Tebing Tinggi. The difference in this research is that drills and practices are carried out only using questions, not using applications as in the previous research which is used as a reference in this research (Sutiah, 2016). This study aims to determine how the application of the Drill and Practice Method using google form media in learning math fraction material in class IV SDN Timbang Langsa. This research was also conducted based on previous research, namely from research conducted by

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B. Method

The research uses a quantitative approach. The quantitative method is a research method that produces findings that can be achieved through statistical procedures (numbers) or measurements (Firdaus, 2019). This study uses the One Group Pretest-Posttest Design where this study has a pretest before treatment and a posttest after treatment. This aims to explain or describe the Application of the Drill and Practice Method Based on Google Form in mathematics learning in class IV SDN Timbang Langsa on fraction material. Informants in the reset were grade IV SDN Timbang Langsa math teachers and students consisting of 15 people. This research took approximately three months. There are several parties who help and facilitate researchers when collecting data at school, namely the Principal The research techniques used are observation, documentation, interviews, and tests (Mulyadi, 2019).

C. Results and Discussion

1. Result

Gender is a sociological paradigm associated with the role or behavior of male and female characters in achieving something. The behavior of men and women becomes a phenomenon of structural functionalism, gender functionalism, and behavioral rationalism, which must be understood as research that provides in-depth study. The efficiency of the consensus of values determines the harmony and stability of a family. From a gender perspective, value systems always work and act to establish balance. Although disagreements may arise anytime, they will not interfere with the family structure if reasonable and not threatening (Lauer, 2003)(Parsons, 1995).

The result of this study is that there are difficulties experienced by fourth-grade students of SD Timbang Langsa in math material, especially fractions. To further strengthen the data, the researcher will analyze the interview and questionnaire instrument data to be processed into a different form of description with the aim of strengthening the analysis of research findings. Thus, this percentage analysis is used to see the results or values obtained from only sourced from the test questionnaire instrument given by students. Then, it is presented in the form of numerical or percentage data (%) which is processed into a diagram or table.

Table 1. Pretest results of fourth-grade students of SDN Timbang Langsa

Experiment	Result
Number of Students	15
High Score	90
Low Score	30
Rata-Rata	62,97

After students get treatment or treatment with the Drill method assisted by Google Forms, it has increased seen from the comparison in the pretest and post-test evaluations, students who reach the minimum completeness criteria (KKM) in the post-test evaluation are 90% or 3

students out of a total of 15 students.

Research table using T-test

No	Informan	Absen	Sebelum_Pre	Sesudah_Post
1	P	1	70	78
2	P	2	75	80
3	P	3	78	85
4	P	4	80	90
5	L	5	60	70
6	L	6	30	70
7	L	7	75	78
8	L	8	80	90
9	P	9	85	78
10	P	10	80	80
11	P	11	75	85
12	P	12	78	80
13	P	13	68	75
14	P	14	70	78
15	P	15	80	85

From the data above, the researcher conducted a paired T-test, Paired Sample t-Test is a type of statistical test that aims to compare the average of two groups that are paired together. Paired samples can be interpreted as a sample with the same subject but experiencing 2 different treatments or measurements, namely measurements before and after treatment. This test will prove that there are differences before and after students at SDN timbang Langsa learn online using the drill and practice model, from the results of the table the following data is obtained:

Table 2. Descriptives

	N	Mean	SD	SE
Pretest	15	72.267	13.242	3.419
Posttest	15	80.133	6.069	1.567

Descriptive plots reveal that in the mean test, there is a significant difference, so one aspect of the T-test is fulfilled where the average value before is 72.267 and after is 80.133.

Assumption Checks

Table 3. Test of Normality (Shapiro-Wilk)

			W	p
Pretest	-	Posttest	0.718	<.001

Note. Significant results suggest a deviation from normality.

Then the second test is the assumption test where the P value in this assumption is smaller than 0.01, so the assumption test with Saphiro Wilk is also fulfilled.

Table 4. Paired Samples T-Test

Measure 1		Measure 2	t	df	p
Pre	-	Post	3.036	14	0.009

2. Discussion

So although the assumption and the mean are significant to show the difference in results after the use of new learning methods, the P value test which determines the difference in the significant value of the data cannot be fulfilled, this may seem odd because the two conditions of the paired T-Test are met but there is a difference from the pre and post religious P value is not significant, from these results it can be seen that 1) this research data is not significant because maybe the research subjects are not many. But it is still proven that learning using google form has benefits in Indonesia.

E. Conclusion

Based on the results of the study, it can be concluded that there are three types of students who experience difficulties in learning math fraction material, namely as follows: 1) type 1 students, who are used as research samples, do not fulfill all indicators of difficulty, in this case indicating that students have actually mastered the concept, can remember postulates or formulations, and are able to solve verbal problems so that it is said that the subject is high. Students have also been able to learn concepts, apply principles, and solve verbal problems; 2) Type 2 students do not fulfill 2 indicators of difficulty, namely indicators of difficulty learning concepts and applying principles, because moderate subjects can already master concepts, and can remember the postulates or formulas of fraction material. But it fulfills 1 indicator of difficulty, namely difficulty in solving verbal problems because the subject is less able to solve verbal problems in fraction material; 3) type 3 students that low subjects cannot understand concepts, remember

the postulates or formulas of fraction material, and solve verbal problems in fraction material, causing low subjects to experience difficulties and fulfill all indicators of difficulty, namely indicators of difficulty learning concepts, applying principles, and solving verbal problems.

From the results of the research obtained so that learning runs well and smoothly, the following suggestions are made: 1) Teachers should use a variety of media in learning so that the material provided is easy to understand 2) Teachers should use new innovations in learning so that students are not easily bored in the learning delivered, 3) the Drill and Practice learning method is proven to be able to help the 3 groups of students. Drill and practice assisted by Google Form have a significant effect after being applied to student learning outcomes in class IV SDN Timbang Langsa. The repetition of exercises tailored to students' abilities makes the drill and practice method very suitable to be applied in high grades in elementary schools.

The disadvantage of this method is that there must be an adequate internet network and devices for the application of drill and practice assisted by Google Forms. The time needed to complete one chapter of math learning is also longer and the teacher becomes a busy party because he has to compile repeated evaluations.

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