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## USE OF GOOGLE SITES FRACTIONAL MATERIALS TO IMPROVE LEARNING EFFECTIVENESS OF ELEMENTARY SCHOOL STUDENTS

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**Abstract:** *This study aims to analyze the use of media google sites to increase the effectiveness of learning mathematics fraction material in elementary schools. This research is quantitative and descriptive. The research subjects were 17 grade 4 elementary school students. Data collection is done by observation and interviews. The instrument was pre-tested and post-tested. Three tests were carried out, namely individual tests, small group tests, and field tests. There are results of comparisons of student activities before and during the learning process without using Google Sites media and using Google Sites media. The results of the pre-test and post test were analyzed using descriptive statistics and inferential statistics. The result of the analysis is that the use of google sites media can increase the effectiveness of learning mathematics fraction subject matter..*

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## INTRODUCTION

Science and Technology are developing very rapidly so it demands digital transformation through technological developments in the era of the Industrial Revolution 4.0. The rapid development of technology will produce new patterns in learning that requires us to adapt quickly. The use of learning technology has become a necessity as well as a demand in the learning process in this global era. One of the important elements in learning that must follow the flow of technological developments is learning media.

According to Audia (2021), learning media is a set of learning tools used to assist the delivery of material during the learning process so that learning objectives can be achieved. Learning media can also be said as a tool or a liaison container to clarify the delivery of messages or information from teachers to students. The use of innovative, creative, comprehensive learning media will be able to attract the enthusiasm of students to learn and create fun learning, to improve the quality of learning.

In this digital era, teacher skills in using technology are very important. Because a teacher is one of the figures who have an important role in education his ability to design

learning media is very influential for the advancement of education. A teacher must master additional skills using technology that is growing rapidly. In this era of rapid technological developments in designing creative learning, a teacher is increasingly required to create interesting, creative, and innovative learning media.

One of the uses of technological sophistication in learning is to find new innovations in learning media, one of which is web-based learning. Web-based learning media is one of the biggest innovations in the learning process in this era of technological advancement. Web-based learning media provides a new experience for students because this learning media combines online and face-to-face learning. So that learning runs more varied, interactive, and innovative in the hope of increasing student achievement.

Based on the results of the initial analysis obtained through unstructured interviews and direct observation of the fourth-grade homeroom teacher at SD Negeri Ngeni 06, during the distance learning period the provision of information and communication related to learning through Whatsapp Group. Information usually consists of several links and other documents related to learning that is provided separately, including video conference links, attendance links, learning video links, material documents in the form of PowerPoint, or other teaching materials. So that it can make it difficult for students when they have to open them one by one and have to switch different applications. Even teachers sometimes become confused and have difficulties because there are too many links and documents to be provided, so errors often occur in providing links and documents to students. Then when face-to-face learning in class delivers material that is still textbook in nature with the help of PowerPoint displayed through a projector screen, where it looks monotonous and boring and not interactive which can lead to a lack of enthusiasm for students in learning.

Based on the description of the problem above, it is necessary to encourage renewal in learning so that learning is easy to use, interactive, packaged more attractively, and becomes something new for students by utilizing technology (Muttaqin et al., 2021: 3). Website-based learning media can be used as a solution to these problems in learning. Currently, many digital platforms can be used in making websites, one of which is Google Sites. Google Sites is one of the products owned by Google as a site-building tool. Google Sites can be used to create websites for both personal and group use. For new (lay) users, Google Sites is very easy to manage and use because the menus and features are easy to understand and familiar (Harsanto, 2014:27). Google Sites can also be connected to other Google products such as Google Docs, Google Forms, Google Sheets, Google Drive, Google Calendar, YouTube and so on (Arief, 2017:138). In the use of Google Sites, it can be used for free and the security of the data will be maintained because it is safe from viruses so that material and information about learning are not easily lost.

Google Sites can be accessed anytime and anywhere and is practical and simple because it is packaged in one integrated website. Google Sites is easy to use because it is based on a website, students only need to open links (web addresses) and documents provided by the teacher via a web browser that is already available on smartphones, so students don't need other applications to open them. Various kinds of learning materials and information can be provided and collected through Google Sites so that students are not left behind (Azis, 2019:313). With Google Sites media, it is hoped that it can help students and teachers in the learning process to make it easier, simpler, and more interesting.

Mathematics lessons are still seen by students at school as the most difficult subjects because they use a lot of formulas and are complicated lessons to be applied and

understood (Nabila & Sulistiyaningsih, 2020). However, this lesson is included in the group of subjects that must be studied from the elementary to high school/vocational level. Related to online learning for fourth-grade mathematics subjects at SD Negeri Ngeni 06, Wonotirto District, Blitar Regency, several obstacles were encountered by students, including (1) signal constraints that made it difficult to access online media, (2) students considered mathematics lessons to be lessons that are difficult to understand, (3) the interaction between teachers and students is not maximal, (4) the task load that must be completed by students, (4) students are less motivated and concentrated during online learning, (5) teaching materials and teacher explanations are difficult to understand, less interesting and boring.

Therefore, learning mathematics should require the use of interesting and easy learning media to support the learning process for students. Because the structure and content or content of Mathematics is an abstract concept, so with the media is able to make it more concrete or real. Mathematics materials should be simple and practical, with the help of a learning media that can make it real, simple, easy, and practical. These Google Sites can help make it easier for students to learn by presenting material that is packaged more attractively so that students have enthusiasm and enthusiasm for learning.

The low activity of students in fractions has an impact on the numeracy skills of fourth-grade elementary school (SD) students. Based on the results of interviews with 5 fourth-grade students of UPT SD Negeri Ngeni 06 Wonotirto Blitar, students find it difficult to distinguish fractions greater than ( $>$ ), less than ( $<$ ), and equal to ( $=$ ). In addition, students feel that they have never studied numeracy material on fractional material, this is evidenced when the researcher asks numeracy questions on fractional material there are only 2 students who are able to answer 3 questions correctly, while the other 3 answers 2 questions about the basic concepts of fractions correctly, but 1 Questions regarding the comparison of two simple fractions cannot be answered by students. The five students admitted that they needed more interesting variations of learning media to support the learning process.

The results of the interview with the fourth-grade teacher of UPT SD Negeri Ngeni 06 Wonotirto Blitar, the teacher has given lessons and numeracy questions on fractional material. But there are problems in the classroom, especially when the teacher gives material about fractions. The amount of material about fractions in the fourth grade of elementary school. So that all the material has not been conveyed. As an intermediary for delivering the material, learning media is used, namely using a cake image that is cut into several parts with A4 image size. In addition, teachers have also used student books and other supporting books in the student learning process, and teachers have used a seating position with a U-letter design so that teachers can reach all students from various angles. However, student activity and participation have not seen a significant increase from before and after the use of media and the change in seating. The teacher stated that there was an increase in student interest, although not so significant an increase in learning outcomes, and there were still more than 40% of students who scored below the Minimum Completeness Criteria during the Final Semester Assessment.

When interviewing teachers, it was revealed that students prefer to learn using technology-based media, such as viewing videos on LCD projectors. Students show interest in the material presented so that their understanding of the material can be maximized. This can be seen at the time of observation that the results of fourth-grade students on fractions material are not as enthusiastic as when watching learning videos. Even after watching the video, the students returned to being passive because the teacher

returned to teaching with conventional learning models. So students just sit quietly listening to the teacher's lecture because the conventional learning model is teacher-centered learning so students are only spectators and wait for the teacher's instructions to do the task.

Due to the many additional tasks outside of teaching hours, it causes teachers did not have much time to make learning media so teachers always teach with conventional methods using makeshift media, so they have never developed media with the help of this developed technology. The solution to this problem is the development of google sites learning media. choose this media because this media can accommodate information in the form of text, images, video, and even audio. Teachers do not need to adapt anymore when using this media because teachers are only needed to collect various kinds of links that are relevant to learning materials into the google site platform. Choosing this media because this media is often encountered by teachers when using web-based digital technology. Besides that, it was also chosen because it can maximize student involvement in the learning process so that in the hope of getting the maximum value.

According to Nululwahida acid et al. 2020, the use of web media is supported by previous studies which state that web media can be used for discussion media and include math answers (fractions) for other people (students or teachers) to review. The use of web media can increase student motivation compared to only students who learn to use textbooks (Chin-Fei and Chia-Ju, 2012). In addition, Hendrawati, Ismanto, and Iriani (2021) said that web media was declared very feasible with the features it contained, including the homepage, school profiles, how-to-use online classes, online discussion forums, and practice questions. with a percentage gain of more than 85%.

From the explanation above, the purpose of this study is to explain the influence of google sites learning media in increasing the activity and numeracy skills of fourth-grade students at SD Negeri Ngeni 06. It is hoped that teachers will be able to choose and make effective and efficient mathematics learning which is considered the most difficult subject. and complicated, so that a fun learning process occurs and the material is delivered optimally because students focus on the material.

## **METHODS**

The method in this research is descriptive quantitative. The participants in this study were 17 fourth-grade students at Ngeni 06 Public Elementary School, Blitar Regency. The material in this study is fractional numbers. This study uses interactive google sites media which is expected to increase the effectiveness in learning.

This research lasted for 2 (two) weeks, starting from October 10 to 24, 2022. Furthermore, the data collection procedure in this study was obtained by means of observation and interviews. Observation, the researcher observed the teaching and learning activities of mathematics by using google sites media at Ngeni 06 Public Elementary School. Here the researcher also acted as a companion teacher to teach them. The researcher made observations in two stages which were divided into three main parts, namely pre-teaching, during-teaching and post-teaching. Researchers observed how teachers taught them by using google sites from the beginning to the end of learning mathematics.

In the interview activity, the researcher conducted interviews with both teachers and students using very simple and unstructured questions because they wanted to get the most accurate information possible. At the end of the teaching process, he interviewed the

teacher first and followed the students. By doing this, he gets information about students' interests and responses in participating in learning activities.

Researchers use assessment instruments to measure student performance. The instrument is divided into two types, namely pre-test, and post-test. Data analysis techniques were carried out by processing the results of the pre-test and post-test using statistical analysis and differential statistics. The steps in analyzing the data are:

1. The researcher distinguished the students' pre-test and post-test scores.
2. Researchers know the average value of the pre-test and post-test.
3. Researchers tested the distribution of data normality.

The researcher seeks the results and interprets the data. Then the researcher presents the data to answer the research questions and find the discussion. Then the researcher concluded the results of the study.

## RESULT AND DISSCUSSION

This Google Sites learning media was tested 3 times, namely an individual test, small group test, and field test. There are results of comparisons of student activities before and during learning without using Google Sites media and using Google Sites media. The average final results are presented in table 1.

**Table 1. Presentation of Student Activity Observation Results**

No.	Activity	Rating Presentation	Assessment Activities
1	Before using google sites media	35,2%	Less
2	After using google sites media	88,2%	Very good

Based on the table above, the results of observing the activities of fourth-grade students at SD Negeri Ngeni 06 before using the google sites learning media showed an average percentage result of 35.2% with the activity criteria "less". While the average result of observing student activities after using the google sites learning media was 88.2% with the activity criteria "very good". The increase in student activity before and after using google sites learning media is 53.4%, so it can be said that google sites learning media can increase student learning activities in learning.

The increase in numeracy skills can be measured from the results of student learning mastery or can also be obtained from the comparison of the pretest and posttest mastery scores. The completeness of the students' pretest scores was 6 out of 17 students with a percentage of 35,3%. While the completeness of student learning outcomes on the post-test scores includes 15 of 17 students with a percentage of 88.3%. Learning media google sites can improve the numeracy skills of fourth-grade elementary school students if the results of the percentage of students who have a complete score of 75% (Winingsih 2021). Because the percentage of student learning outcomes completeness is  $88.3\% > 75\%$ , the learning media google sites can improve the numeracy skills of fourth-grade Ngeni 06 State Elementary School.

The results of the effectiveness of the google sites learning media can be seen from the comparison of the average pretest and posttest scores of fourth-grade students at SD Negeri Ngeni 06 in 3 trials in fractional material. Pretest scores were obtained before training using google sites learning media and posttest scores were obtained after training using google sites learning media. The results of the effectiveness of the media are presented in Table 2.

**Table 2. Summary of Students' Pretest and Posttest Scores**

No.	Kegiatan	Amount	Average	Total students	Standard	Deviation
		Standard Error Means				

1	Pretest Value	1058	62,24	17	10,30	2,50
2	Posttest Value	1409	82,88	17	8,99	2,18

Through the use of this google sites learning media, the activities and numeracy abilities of fourth-grade students of SD Negeri Ngeni 06 can increase. This is in line with the research results of Nurulwahida Azid et al (Nurulwahida Azid et al. 2020) that web-based learning media can improve students' numeracy skills in mathematics subjects located in Kubang Pasu Malaysia. Furthermore, research conducted by Hidasar, Bafadal, & Yani (2021) showed an increase in student learning activities in West Kalimantan by using culture-based learning media packaged in the traditional game of Tabak.

Based on the results of previous research related to research, it can be said that google sites learning media is suitable for use in learning, so students prefer to learn using google sites media than conventional learning. In addition, students can improve numeracy skills and there is an increase in activity during learning activities on fractional material for fourth grade elementary school. According to Bhagaskara et al (2021), learning media google sites are able to attract students' interest in learning, have fun, increase motivation and enthusiasm. Besides that, it can also improve scientific attitude, and can be accessed anytime and anywhere.

## CONCLUSION

Based on the results of research and development of google sites learning media, it can be concluded that this media is effectively applied to class IV fraction material at Ngeni 06 Public Elementary School. Google sites learning media is effectively applied in learning, it can be seen from the students' pretest average score of 62.24, an increase at the posttest stage of 82.88. The percentage of students who scored above the minimum completeness criteria also increased, from 35.3% to 88.3%, or an increase of 53%.

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