Bulletin of Science Education

Vol. 4, No. 3, December 2024
https://attractivejournal.com/index.php/bse/index

The Influence of Using Youtube Media Regarding Units of Length on Learning Outcomes in Second Grade of Mathematics Learning at Madrasah Ibtidaiyah Pager Semarang

Fista Sixnori [1*], Praptiningsih [1], M. Fatchurrohman [1]
[1] *Institut Islam Mamba'ul Ulum Surakarta, Indonesia*

fistasixnori353@gmail.com*

ARTICLE INFO
Article history:
Received
February 08, 2024
Revised
September 27, 2024
Accepted
October 26, 2024

Abstract

The objectives of this research are to find out the application of YouTube media learning in mathematics subjects about units of length for class 2 students, to improve learning outcomes in mathematics subjects about units of length by using YouTube media learning media for two class grades, and to find out how effective the use of YouTube media is in mathematics subjects regarding length units for grade two students at Madrasah Ibtidaiyah Pager Kaliwungu, Semarang. This research method uses a quantitative approach. The population in this study was two class of Madrasah Ibtidaiyah Pager, Kaliwungu, Semarang, 37 students. This research was conducted at Madrasah Ibtidaiyah Pager by taking samples using a total sampling of 37 students. Data collection used observation, questionnaires and documentation. The results of this research show : First, The results of using media youtube produced the highest score of 80 and the lowest score of 37 from 37 class II students with 6 students in the very high category, 13 students in the high category, 12 students in the low category and 4 students in the very low category. Second, The learning outcomes produced the highest score of 90 and the lowest score of 75, while the mean was 81.75676 with a standard deviation of 4.323. that the results from the YouTube media were 9 students in the very high category, 8 students in the high category, 14 students in the low category and 6 students in the very low category. Third youtube learning media has an effect on student learning outcomes by 0.776. This is because it has a sig value of 0.000 or <0.05. Thus, increasing youtube learning media will increase student learning outcomes by 77.6%.

Keywords: Youtube Media, Mathematics Learning, Learning Outcomes

Published by CV. Creative Tugu Pena
ISSN 2774-4299
Website https://attractivejournal.com/index.php/bse/

INTRODUCTION

Current demands for advances in science and technology are expected so that someone can master information and knowledge. Thus, an ability to obtain, select and process information is required. These abilities require critical, systematic, logical and creative thinking. Therefore, an educational program is needed that can develop critical, systematic, logical and creative thinking skills. One educational program that can develop critical, systematic, logical and creative thinking skills is mathematics. Mastery of mathematics is really needed by students both in formal education and in everyday life because so many activities involve mathematics.

According to (Etrina, et al, 2018) in the journal Wahana Scientific Basic Education in 2021, mathematics has an important role in education and community life. Seeing the important role of mathematics, mathematics learning outcomes need to receive serious attention. Mathematics learning is a way to find answers to problems faced by humans, using knowledge about shapes and sizes, a way to use information, using knowledge about calculating, and the most important thing is to think within humans themselves in seeing and using problem relationships. they encounter in everyday life. Government Regulation Number 19 of 2005 concerning National Education Standards article 19 paragraph 1 (PP, 2005) states that the learning process in educational units is carried out in an interactive, fun, challenging manner, motivates students to participate actively, and provides sufficient space for initiative and creativity. , and independence in accordance with the participants' talents, interests, and physical and psychological development (Mahiddin 2021:38).

Based on this understanding, education is needed that can help solve the problems faced by Muslim communities today. Therefore, education should touch all aspects that are directly related to individual development needs, both from religious knowledge and general knowledge so that they can live and develop in accordance with the true teachings of the Islamic religion.

Learning media is an important component in the learning process. A learning process will be more effective if it uses learning media, learning media is anything (people, messages, tools/events) that contains learning material which is used as a tool to convey information to students. One of the learning media is YouTube videos because with this media students can learn with enthusiasm, motivation, fun, not boring and attract attention, especially elementary school students because they still think concretely. Everything the teacher says or conveys must be shown with their eyes. they.

The media used in MI Pager before using YouTube were books and printed materials, game wordwalls and concrete objects around. With these media, students are less enthusiastic and still have difficulty understanding long unit material because the material is more difficult than other material, so the teacher in class 2 uses media that makes students more enthusiastic and easier to accept long unit material. Media video youtube is a video sharing service where users can watch, like, share, comment and upload their own videos. This video service can be accessed on Smart TV, Android TV, Android TV Box, PC, laptop, tablet and via mobile phone. YouTube was started by three former Paypal company employees, namely Chad Hurley, Steve Chen, and Jawed Karim. Hurley is a design alumnus at Indiana University of Pennsylvania, while Chen and Karim are computer science alumnus at the University of Illinois Urbana Champaign. The domain name 'YouTube.com' itself was activated on February 15 2005, and in the following months YouTube began to be built. They published a preview of the website in May 2005, or 6 months before the official launch.

Based on the results of observations carried out by researchers at Madrasah Ibtidaiyah Pager, they have used the independent curriculum which is applied to grades 1, 2, 4 and 5. Meanwhile for grades 3 and 6 they still use the 2013 curriculum. In this observation process the researcher interviewed the class 2A teacher and 2B, in learning long unit material, very low scores were found, namely an average of 50 and below based on data that researchers received from class 2A and 2B teachers with low scores for students, so the researcher concluded that with media that was interesting for students namely YouTube video media can improve previous values. So the researcher states that Madrasah Ibtidaiyah Pager is one of the schools that is classified as lacking in the application of learning media in the teaching and learning process, this is characterized by the lack of use of the media used in the learning process, especially in Mathematics subjects with long unit material because they feel that this subject is very difficult, the teacher only uses objects around the class so that the impact is not good and the children are less interested in the media, as well as the students' attention in following the teaching

and learning process. Seeing the less effective and efficient learning situation and the low mathematics scores in long unit material, the researcher stated that to achieve instructional goals in learning, it is necessary to design good and interesting media for learning so that there is an increase in student achievement.

Therefore, the author is interested in conducting research entitled "The effect of using YouTube media regarding units of length on learning outcomes in mathematics learning in class 2 of Madrasah Ibtidaiyah Pager, Semarang district, academic year 2024/2025"

Media is all forms of communication, both printed and audio visual, and their equipment. Media should be able to be manipulated, heard, seen and read. In this case, media is anything that can channel messages from the sender of the message to the recipient of the message which is able to stimulate the thoughts, feelings, attention and interests of students so that the learning process occurs. According to Arief Sadiman (2018:12) in his opinion According to Gerlach and Ely (2009:3) media are people, materials, or events that create conditions that students think are able to acquire knowledge, skills, or attitudes. In this sense teachers, textbooks and the school environment are part of the media. So media is a tool used by a teacher to convey learning material in the form of visuals, audio-visuals and other things created by a teacher to suit the needs of students and learning objectives.

YouTube is the social media that is most popular with people today. Its popularity is projected to continue to increase along with the number of users. Internet users visit YouTube not only to get entertainment but also to learn or get information. The development of YouTube as one of the most popular social media is an opportunity in the world of education. Education has a very important role in developing quality human resources, according to Haryadi's opinion in the journal Ratna Zulhijah (2022:30).

Most students are interested in things that are visual videos compared to general methods such as conveying knowledge only from books. By using YouTube, students will be more interested in understanding a theory or knowledge. Through learning media using YouTube, students can understand material more quickly than studying through textbooks, because usually the learning media is made interesting so that students will not feel bored. This is alleged to be able to increase student interest and motivation in learning which will ultimately improve student learning outcomes.

Understanding Learning Outcomes In essence, learning outcomes are changes in behavior after the learning process. Learning outcomes are psychological behavior that will be changed in the educational process. Bloom in the journal Ratna Zulhijah (2022:44) suggests three types of learning outcomes, namely: cognitive, affective and picomotor. The cognitive domain concerns the development of students' brain and reasoning abilities. The affective domain concerns attitudes and values. The affective learning type appears in students in various behaviors, such as attention to lessons, discipline, study habits, learning motivation. Psychomotor learning outcomes appear in the form of skills, the ability to act from students. The distribution of cognitive, affective and psychomotor learning outcomes is not clearly separated. The learning outcomes obtained by students will be influenced by their learning activities. Based on the opinion above, it can be seen that learning outcomes are changes in a person's behavior as a result of the learning process they have gone through which includes cognitive, affective and psychomotor aspects. So, learning outcomes are the achieved values obtained by students from learning results to answer questions given by the teacher in the form of cognitive, affective and psychomotor values which are in accordance with the student's abilities.

According to Enceng Mulyana (2008:17), learning can be defined as any systematic and deliberate effort to create conditions for learning and teaching activities to occur. According to Usman (Asep Jihad, 2008:12) learning is the core of the overall educational process with the teacher as the main role holder. Learning is a process that contains a

series of actions of teachers and students based on reciprocal relationships that take place in educational situations to achieve certain goals.

According to Oemar Hamalik (2005:57) learning is a combination that includes human elements, materials, facilities, equipment and procedures that influence each other to achieve learning goals. According to Arief, et al (2003:9) the learning process must be designed systematically by focusing on students. Learning is planned based on student needs and characteristics and is directed at changing student behavior in accordance with the goals to be achieved. According to Ismail et al (Hamzah, 2014:48) mathematics is a science that discusses numbers and their calculations, discusses numerical problems, regarding quantity and magnitude, studies the relationship between patterns, shapes and structures, means of thinking, a collection of systems, structures and tools. This means that the objects discussed in mathematics are only numerical problems, both in problems with numbers that have value and as a means of solving a problem. According to Wahyudi and Kriswandani (2013: 10) mathematics is a science that studies abstract concepts that are arranged using symbols and is a language that is exact, precise and free from emotion. Based on the description of this expert's opinion, mathematics is a human activity that studies various abstract objects related to numbers which are used to solve problems in everyday life and is also used as a developer of science and technology. Mathematics learning, according to Bruner and Herman Hudoyo, (2000:56) is learning about mathematical concepts and structures contained in the material being studied and looking for relationships between mathematical concepts and structures in it. According to Cobb and Erman Suherman (2003:71) mathematics learning is a learning process that involves students actively constructing mathematical knowledge.From the description above, learning mathematics is the process of interaction between teachers and students to obtain information, understand and communicate the information obtained. Mathematics learning is also a teaching and learning process built by teachers to develop students' creative thinking.

There are several types of standard length measuring instruments that can be used to measure the length of an object. Each measuring instrument is used according to the object being measured. 1). Ruler, used to measure the length of rails or other objects that are less than 1 meter long. 2). A tape measure is used by tailors to measure the length of fabric that will be made into clothing. 3). A small rolling tape measure, used by carpenters to measure the length of wood or space. This meter can measure the length of objects up to 10 meters. 4). Large roller meter, used to measure the length and width of land up to 50 meters.

METHODS

This type of research is quantitative research. According to Sugiono (2017:8) quantitative research methods are research methods that are based on the philosophy of positivism, whose function is used to research certain populations or samples, where data collection uses object research instruments, data analysis is quantitative or statistical in nature, with the aim of test the hypothesis that has been applied.

In this research, the author used a quantitative method to find out whether there was an influence of YouTube media on the Mathematics learning outcomes regarding length units for Class 2 Students of Madrasah Ibtidaiyah Pager, Semarang Regency, if there was an influence, how strong or not that influence was.

RRESULTS AND DISCUSSION

In this study, the researcher carried out a validity test, where at the beginning of the validity test the researcher made 25 question items, however, there were 5 items that were invalid, then the researcher used 20 valid items, after the 20 question items were valid, the researcher distributed the questionnaire to 37 students in the class. 2A and 2B.

In the reliability test, the results were 0.949. The above results are greater than 0.6 which can be concluded that the reliability test is acceptable. The questionnaire is declared valid and reliable, so the questionnaire can be distributed to respondents.

In prerequisite testing, analysis is carried out using the Kolmogrov-Smirnov normality test, which obtains results from normally distributed model residuals. Data is said to be normal if the significant value is greater than 0.05 at (prob>0.05). On the other hand, if the significant value is smaller than 0.05 at (prob<0.05), then the data is said to be abnormal. In this study, the resulting normality test is prob.=0.00>(0.05), so it is said to be normal. Therefore the research can be continued to the next stage. The analysis carried out in the next stage is hypothesis testing by calculating the correlation coefficient using product moment. The results of the product moment analysis obtained a result of 0.776 because it has a significance value of 0.000. Thus improving YouTube learning media can improve student learning outcomes.

The results of the research show that the use of YouTube media has a positive impact on classes whose learning process uses YouTube video media, which is shown in the increase in student learning outcomes in classes that use this media. To make learning Mathematics a subject that is no longer feared and liked by students, YouTube videos are used as an interesting learning medium. This is done because many students think that learning Mathematics is a very difficult subject. Therefore, YouTube video media is used as an intermediary medium for delivering interesting learning because students can learn to count while singing.

Student learning outcomes in class II Mathematics at Madrasah Ibidaiyah Pager are influenced by the use of YouTube video media about units of length. This happens because teachers do not vary their learning. Teachers only teach counting using minimal media. The lack of use of interactive learning media and only focusing on conventional methods makes it difficult for students to understand the material.

Differences are shown when teachers start to use variations in learning, start to use learning media that are interesting to students and follow current developments in the current era. Students look very easy to answer the questions presented by the teacher. Many students are active during the learning process. The results before and after the implementation of YouTube media showed a significant increase in improving the learning outcomes of class II students at Madrasah Ibidaiyah Pager in Mathematics learning for the 2024/2025 academic year.

CONCLUSION

Based on the results of research and data analysis, it can be concluded that the use of YouTube learning media has an effect on student learning outcomes as shown by the results: 1).Based on the results of research and data analysis, it can be concluded that the use of YouTube learning media has an effect on student learning outcomes. shown by the results of the questionnaire validation, namely 6 students who got a score of >70.26, 13 students who got a score of 58.45-70.26, 12 students who got a score of 46-58 and 12 students who got a score of less out of 46 as many as 4 students, most of the results obtained were in the very high and high categories. For the learning outcomes of students who got a score of >86.07 there were 9 students, for a score of 81-86 there were 8 students, for a score of 77-81 there were 14 students and those who got a score <77 were 6 students, the majority of whom were students fall into the very high and high categories. 2). In the reliability test the results were obtained which shows the number 0.949. This result is greater than 0.6 which can be concluded that the reliability test is acceptable. 3). After carrying out the validity test and reliability test, the next step is the prerequisite test which consists of a normality test and a homogeneity test. The normality test shows that the residuals spread following a normal distribution. This is because it has a sig value of 0.200 or > 0.05. The residual values that are distributed follow a normal distribution, and

in the homogeneity test, a result of Levene statistic of 14.864 was obtained. The level of significance used was α = 0.05, thus simultaneously there is a relationship between the independent variable and the dependent variable. 4). After the normality test and homogeneity test, the next step to be carried out is the hypothesis test. Hypothesis testing in this study uses a significance correlation test which produces YouTube learning media on student learning outcomes of 0.776 because it has a significance value of 0.000. Thus, increasing YouTube learning media will improve student learning outcomes.

REFERENCES

Aedi, N. (2008). *School Assessment Instrument*. 4.

There is Ratna Wulan. (2018). *Understanding and Essence of the Concepts of Evaluation, Assessment, Tests and Measurement*. Bandung: FMIPA UPI,

Andriyani, N. L., & Suniasih, N. W. (2021). *Development Of Learning Videos Based On Problem-Solving Characteristics Of Animals And Their Habitats Contain in Science Subjects On 6th-Grade*. Journal of Education

Azhar Arsyad. (2009). *Instructional Media*, Jakarta: Raja Grafindo Persada, p:3.

Benny A. Personal. (2011). *The Assure Model for Designing Successful Learning*. Jakarta: PT Dian Rakyat. p. 13

Endang Poerwanti. (2008). *Elementary Learning Assessment*. Jakarta: Director General of Higher Education, Ministry of Education. p. 4.

Endang Poernawati. (2008). *Elementary Learning Assessment*. Jakarta: Director General of Higher Education, Ministry of Education. p. 3

Erik Fahron Setiadi, Alia Azmi, and Junaidi Indrawadi. (2019). "YouTube as a Learning Source for the Millennial Generation". Journal of Civic Education, 2:4, p. 315

Hamzah, dkk. (2014). *Research Variables in Education and Learning*. Jakarta: PT. In Publication.

Haryadi Mujianto. (2019). "*Utilization of YouTube as a Teaching Media to Increase Student Interest and Motivation*". Journal of Communication Thought and Research Results, 5:1, 2019, p. 136-137.

Haryadi Mujiyanto. (2019). Utilization of YouTube as a Teaching Media to Increase Interest and Motivation in Learning. Journal of Communication Thought and Research Results Vol. 5; No. 1

Muhammad Yaumi. (2018). *Learning Media and Technology Second Edition*. Jakarta: Kencana p. 7-8

Mulyono Abdurrahman. (2012). *Children with Learning Difficulties "Theory, Diagnosis and Remediation"*. Jakarta, PT RINEKA CIPTA. Pg:202

Nana Sudjana. (2008). *Basics of the Teaching and Learning Process*. Bandung: New Rays. pp 35.37

Novita, L., Sukmanasa, E., & Pratama, M. Y. (2019). Indonesian Journal of Primary Education Use of Video Learning Media on Elementary School Student Learning Outcomes. 3(2), 64–72.

Nyayu Khodijah. (2014). *Educational Psychology*. Jakarta: PT Raja Grafindo Persada. p. 47

Purwanto. (2009). *Evaluation of Learning Outcomes*. Yogyakarta: Learning Library. p. 48 34 Ibid.

Putra, H. I. A. ., Hidayah, N., & Hidayat, Y. (2023). The influence of learning discipline on the learning outcomes of fiqh subjects for class *al'ulum journal of Islamic education*, *3*(2), 153–167. https://doi.org/10.54090/alulum.256

Rahmatika, R., Yusuf, M., & Agung, L. (2021). The Effectiveness of Youtube as an Online Learning Media. *Journal of Education Technology*, *5*(1), 152–158. https://doi.org/10.23887/jet.v5i1.33628

Ramen A Purba, et al. (2020). *Introduction to Learning Media*. Jakarta: Kita Write Foundation. p. 9-10

Siregar, S. (2017). Quantitative Research Methods Equipped with a Comparison of Manual & SPSS Calculations (4 ed.). Kencana: Prenadamedia Group.
Siregar, Syofian. (2015). Parametric Statistics for Quantitative Research Equipped with Manual Calculations and SPPS Application Version 17. Jakarta: PT Bumi Aksara.
Sugiyono. (2015). Quantitative, Qualitative and R&D Research Methods. CV. ALPHABET
Sugiyono. (2017). *educational research methods, quantitative, qualitative, and R&D*. Bandung, alphabeta, p. 80
Sugiyono. (2016). Quantitative, Qualitative, and R&D Research Methods. CV. ALPHABET.
Sugiyono. (2019). Quantitative, Qualitative, and R&D Research Methods (1 ed.). CV. ALPHABET.
Suharsimi Arikunto. (2010). *Research Procedures A Practical Approach*. Jakarta: Rineka Cipta. p. 211. 46 Ibid., p. 22
Titin Sutarti and Widhi Astuti. (2021). "The Impact of YouTube Media in the Learning Process and Creativity Development for Millennials". Widya Aksara: Journal of Hindu Religion, 26:1, p. 95.
Wahyudi and Kriswandani. (2013). *Development of Elementary Mathematics Learning*. Salatiga: Widya Sari Press.
Yan Suryana. (2015). *Educational Management Research Methods*. Bandung, PT. Library, P. 535(1), 37–47.