



DIGITAL STORYTELLING IN INCREASING ELEMENTARY SCHOOL STUDENTS' MATHEMATICS LEARNING MOTIVATION

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ABSTRACT

Mathematic is one of the learning subjects avoided to learn by most students in class. A perception that mathematics is a difficult and uninteresting learning subject is often embedded in students' minds so it influences their motivation in learning. Motivation can influence students' achievement in learning. The digital era directs students to learn through technology. Through technology, students can have an improvement in motivation. This research is designed to determine whether digital storytelling has effectiveness in increasing students' motivation or not, especially in learning mathematics. The research subjects involved five fifth-grade students at public elementary school X. The subjects were around 9-10 years old. The research used experimental techniques by observing time sampling before and after giving treatment. The research results indicate the results of the Wilcoxon normality test and obtained a value of $0.038 < 0.05$. There is a significant improvement for students in their learning motivation after giving the treatment, namely digital storytelling. This research can be used as a study or reference for teachers in increasing students' motivation in class, especially in mathematics.

Keywords: learning motivation, digital storytelling, mathematics

DIGITAL STORYTELLING DALAM MENINGKATKAN MOTIVASI BELAJAR MATEMATIKA PADA SISWA SEKOLAH DASAR

ABSTRAK

Matematika merupakan salah satu mata pelajaran yang banyak dihindari oleh siswa di kelas. Anggapan bahwa matematika menyulitkan dan tidak menarik sering kali tertanam dalam pikiran siswa sehingga mempengaruhi motivasi dalam belajar. Motivasi mampu mempengaruhi prestasi dalam belajar. Era digital membuat siswa mulai mengarah pada pembelajaran menggunakan teknologi. Dengan adanya teknologi, siswa mampu memiliki perubahan motivasi. Penelitian ini bertujuan untuk mengetahui apakah digital story telling memiliki efektifitas dalam peningkatan motivasi siswa khususnya dalam pembelajaran matematika. Subjek penelitian melibatkan lima orang siswa kelas lima sekolah dasar negeri di SD X. Usia subjek sekitar 9-10 tahun. Penelitian menggunakan teknik eksperimen dengan melakukan observasi *time sampling* sebelum dan setelah diberikannya perlakuan. Hasil penelitian memperoleh hasil Uji normalitas *Wilcoxon* dan memperoleh hasil nilai $0.038 < 0.05$. Terdapat perubahan signifikan pada motivasi belajar siswa setelah diberikannya perlakuan yaitu *digital story telling*. Penelitian ini dapat dijadikan bahan kajian atau referensi untuk guru dalam meningkatkan motivasi belajar siswa di kelas khususnya matematika.

Kata Kunci: motivasi belajar, digital story telling, matematika

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INTRODUCTION

Learning needs to use methods that are interesting to children. The development of technology today makes children more active in using technology, be it social media or digital applications to facilitate learning. Learning that is synonymous with using a whiteboard has turned to the use of technology to make it easier for students to understand learning.

Most students find mathematics difficult resulting in a lack of personal interest and

motivation to learn mathematics and show that as children get older, students' interests and attitudes towards school in general and towards certain subjects such as mathematics, art and science tend to deteriorate (Starcic, 2016).

Student achievement can be seen from the value of the subjects followed. Students perceive that mathematics is abstract so learning mathematics will not benefit them. Self-motivation can also be defined as motivation that

arises from an individual's internal desire for satisfaction and fulfillment of certain needs.

Learning can be done with two things, namely practice and experience. Students at school are trained to be able to solve a problem so that strong motivation is needed in participating in the learning process. Motivation will determine the power of student achievement. Motivation can be developed when there is a pleasant feeling in the learning process.

Williams & Williams (2017) states that internal or intrinsic factors that influence learning motivation (psychological) refer to the interest, interest or desire in a person to achieve learning goals and achievements. Learning in an interesting way will also build good motivation from students.

The incorporation of technology is important in developing and increasing student motivation in learning. Story telling method is a method that can be used to increase student motivation. Story telling comes from two words, namely story which means story and the word telling itself means telling. The combination of these two words has the meaning of telling. Since ancient times story telling has existed. Kervin and Mantei (2015) explain that story telling is a collection of stories created using electronic media add sound, image, color, film and music effects.

Story telling is an instrument used in daily communication and is commonly used by teachers in explaining learning in the classroom. The digital era has the benefit of presenting learning in a more practical and interesting way. Learning mathematics which is synonymous with unpleasant things can be changed to pleasant conditions with attractive pictures, sounds and lighting (Ozpinar, 2017)

Technology has also given rise to digital story telling which can provide its own charm. Robin (2006) revealed that the digital story telling method is capable of developing students' learning motivation in schools, especially in numerical or image learning. Digital Story Telling combines the ability to present learning in digital or multimedia forms such as images, sound or video that supports understanding of learning concepts (Karatas, 2016). Digital story

telling influences achievement abilities and motivates students to solve problems (Aktas, 2017).

Motivation is defined as a state within an individual that can produce, direct or support behavior. Byman in Adnan (2012) individuals can optimize their ability to follow rules and improve their ability to learn. Digital Story Telling (DST) is considered an effective instrument for increasing learners' motivation to learn languages and increasing their active participation in the language learning process through content, pedagogy, and learning skills. Wina Heriyana & Maureen in Yuliana (2017) learning Digital Story Telling in mathematics has a positive influence in increasing student learning interest and student learning motivation. This study aims to determine the effectiveness of Digital Story Telling in increasing students' learning motivation in elementary schools.

LITERATURE REVIEW

Learning Motivation

Student motivation is needed in the learning process. The existence of motivation will help students to be enthusiastic about learning. If students have low learning motivation, these students will find it difficult to adjust to their learning. Putri & Syahputra (2019) in their study explained that students who have low learning motivation will consider all subjects studied difficult, especially in the field of mathematics, the level of student preference for mathematics is very low. This is also based on students who have low motivation. by assuming that mathematics is a difficult subject so that students easily give up.

Tohidi and Jabbari (2012), the concept of motivation is divided into two, namely, intrinsic and extrinsic motivation, the two motivations are interconnected in achieving learning achievement. Intrinsic motivation is motivation that comes from within the student in the form of desires and encouragement of learning needs and expectations of students' aspirations, while extrinsic motivation is a factor that comes from outside the student's self, such as appreciation, a conducive learning environment and interesting learning activities. This explains that to achieve

good learning motivation, in addition to intrinsic factors that come from students themselves, it also requires extrinsic motivation as a supporter of student learning motivation, students need support and appreciation or appreciation from the environment such as family, especially parents, then a comfortable learning atmosphere and conducive as a supporter of students when learning.

Some indicators that can show students have good learning motivation are as follows: (1) students have a desire to succeed in learning, (2) there is a desire, enthusiasm, and need to learn, (3) students have or show hopes and aspirations for the future, (4) learn to meet the needs of obligations, (5) there is appreciation in the learning process for students (Farida, 2015). Currently there is a lot of research in order to increase student motivation, Sabrina (2016) states that by developing new and effective teaching materials in subjects, especially mathematics which is one of the subjects that students do not like, it can help students in the spelling process and increase motivation. student learning. Suranto (2015), found results that with good learning motivation can influence student achievement, which means that there is a significant influence on learning motivation with interest and student achievement.

Digital Story Telling

Digital story telling is a process carried out with the aim of providing methods in the teaching and learning process that are more enjoyable for students, using applications such as visuals, audio, and music can help students better understand the material provided and it is hoped that it can increase motivation and enthusiasm for learning in student.

Research from Robin in Ozpina, (2017) explains further that digital storytelling not only helps students in discussing learning material, but also helps students understand material and concepts more easily understood, so this method really helps students in facilitating teaching and learning activities in classroom. The study also explains that the provision of digital story telling methods is a strong and effective instrument that

can be used in an educational environment (Karatas, 2016).

Smeda, (2014) the application of digital story telling given to students proves that students prefer the mathematics learning method given compared to the previous learning process, students find it easier to understand and work on the questions given, then students feel free to ask questions and discuss with the teacher or friends of the same age. Ozpina (2017) also researched that digital story telling is used to introduce subjects, attract students' attention in class learning and the material provided, arouse curiosity in students, and remind students of material that has been previously given to students so, with digital storytelling students can it is easier to understand any given material, including students can more easily understand material that requires deeper understanding, one of which is mathematics.

The digital story telling method will attract students' attention, make learning more effective, increase student motivation and achievement. Kahraman (2013) students like the method used, namely digital story telling because it can increase understanding in subjects, especially mathematics which requires various variations through image media.

Giving learning methods by means of digital story telling can change students' perceptions of learning, especially in mathematics. Digital story telling helps children understand formula concepts, solve problems, and eliminate boredom in children so that children are expected to be enthusiastic in learning, especially during the process of learning mathematics. In line with research conducted by Walters, (2018) students said that when the teacher provides a digital story telling learning method, namely in the form of visuals, it can facilitate and assist in solving the questions given, then students also change their perceptions of mathematics by arguing that mathematics is usually it is only done with formulas and handwriting but by providing this method it can help understanding especially in story problems, then Walters (2018) also said in his research that teachers who teach mathematics can more easily explain to students and are very helpful in the

teaching and learning process. The application of learning that utilizes technology such as digital story telling as a communication and learning tool can help improve learning, it is also hoped that teachers can create an effective learning environment with the teaching methods provided.

Technology in mathematics has shown a good influence on student learning motivation (Higgins, 2019). Learning methods with technology such as digital story telling are powerful methods used to display students' skills in critical, analytical and higher thinking, provide training and practice, and can involve students in the process of solving real-world problems (Bitter & Pierson, in Higgins, 2019)

METHOD

The research used experimental techniques by giving treatment and taking measurements before and after being given treatment. Researchers took measurements before giving treatment by observing time sampling to students in one class for 5 times in mathematics. Observation leads to the level of attention paying attention to the teacher, recording learning, not chatting with friends, doing assignments and not going in and out of the classroom. The results of

these observations obtained five students who had significant results for the Digital Story Telling method. The research subjects were five students in a public elementary school. The age of the subjects ranged from 9-10 years.

The digital story telling activity program is carried out for seven days after the subject returns from school. Subjects watched digital story telling in the form of video showing the ease of learning simple mathematics. This activity lasts for one hour and at the end of the session a simple question will be asked to find out whether the subject is motivated in carrying out learning such as the spectacle given. Measurements after being given treatment were also carried out using the same observations as before the treatment was given.

RESULTS AND DISCUSSION

The training lasted for one hour and ended with a simple question and answer session given to the subject regarding the subject's understanding of the learning provided. The evaluation procedure is carried out in an iterative manner with observations while the subject is learning mathematics in class.

Table 1. Wilcoxon Test of Learning Motivation

Test Statistics	
	before-after
Z	-2.070 ^b
Asymp. Sig. (2-tailed)	.038

Table 2. Time Sampling Observation Results of Learning Motivation

	Total Participants	Percentage
Permanent	-	
Increase	5	100%
Total	5	100%

The table above shows an increase in the observation results of research subjects after being given treatment in the form of the Digital Story Telling method. There were 5 participants with significant results, namely 100% increased. Statistical results were obtained using the

Wilcoxon normality test and obtained a value of 0.038 < 0.05.

Educators such as teachers need to provide a new learning atmosphere for students in increasing student interest and motivation in learning. Teachers can provide fun learning

methods so that in the learning process children can also discuss with the aim that children can exchange ideas so that this will help children to be able to think more critically about the material being taught.

DISCUSSION

Sabrina (2016) develops teaching materials and methods that arouse students' interest and is expected to increase students' learning motivation. Motivation and attitudes have been proven to influence student learning behavior and interests differently, as well as affect student academic achievement (Marzano in Higgins, 2019). That way, the teacher is expected to be able to motivate students in learning interest and students' difficulties in understanding the learning given. Asikin (2021) explains that teachers should not only focus on one student, but also be able to provide the same treatment and attention to all students. Teachers can approach students who have learning difficulties, so that they can help students meet students' needs in understanding subjects, especially mathematics, the teacher can also present the concept of learning mathematics in a way that attracts students' attention and varies so that students don't get bored and bored quickly.

Based on the results of research conducted by Novitasari & Fathori, (2022) on students who experience difficulties in learning mathematics, namely teachers can make changes to learning techniques in class so that they can attract students' attention and increase students' interest in learning, teachers can utilize learning media that digital based or digital story telling as needed, involving students in the teaching and learning process such as when explaining examples of questions the teacher can involve students, giving students freedom to discuss, ask questions and help answer questions, give remedial or remedial exams to students.

This research uses a digital story telling based method, in carrying out digital based learning methods or digital story telling, it will help students understand the material provided which is expected that students will not get bored easily in class, in the process the stories used in the digital storytelling process are stories that can

be developed by the teacher according to experiences and events known to students (Suwardy, 2013). This of course can make the teaching and learning process more interesting for students, because students can more easily understand the material through the storytelling provided. Teachers can take advantage of digital story telling that has been created as a teaching tool to attract students' attention, provide new ideas to students, and teach subjects that require focus such as mathematics and imagination to students. In addition to giving digital story telling by the teacher to students, the teacher can also give students both individual and group assignments, namely presenting through digital story telling, this provides a new atmosphere for students. Students can also discuss among their friends. Bratitsis (2015) digital story telling carried out by students in the learning process, so students can play an active role such as discussions, and students can also carry out discussions in learning mathematics to solve these problems.

Thus, the teacher certainly plays an important role in the student learning process, how students can understand and accept each material being taught, not easily feel bored and bored, and can provide motivation to students in increasing their interest in learning. Darimi (2016) says that there are 7 components that can affect learning, namely: students, learning processes, teaching materials, teachers, students, learning situations, and learning objectives. This explains that the teacher has an important role in the success of learning so that not only the media as a learning aid but the teacher acts as a mediator, motivator, director, transmitter, initiator, informer, organizer, facilitator, as well as evaluator of students in learning (Kusumabangsa, 2016). The teacher as a student motivator in increasing student learning interest so that they can follow the learning process well, so that the role of the teacher influences the level of success in student understanding (Novitasari & Fathori, 2022).

CONCLUSIONS AND RECOMMENDATION

The learning process and understanding of learning can be seen from student motivation.

Students who have motivation are expected to be able to follow the learning process well and have achievements. This study further explains that the digital story telling method has an effect on the level of students' motivation in learning mathematics. The existence of creative methods using digital media can awaken students' focus, with the presence of sound, images and visuals.

Digital story telling methods that are effective for students in the classroom still need to be developed in the realm of education and adapted to students' abilities. Teachers can use the results of this research as a reference in providing new learning methods to students to help motivate learning and make learning mathematics fun for students.

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