

ANALYSIS OF THE APPLICATION OF ANIMATED VIDEO MEDIA ON STUDENTS' UNDERSTANDING OF SCIENCE LEARNING

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Abstract

This research was conducted based on field observations on third grade elementary school students. This study aims to increase students' understanding of science learning in class III SD through the learning method of animated video media. The research method used is a qualitative method by making observations in the field by forming two different groups, displaying two different learning methods. The first method is carried out by presenting an animated video related to the material to be delivered and the second method is carried out in a way that is usually done by the teacher when teaching, and then observations are carried out with interview sessions and documentation. The research results obtained are that many children are interested in the video animation method, they are more focused on looking at the screen and actively respond when there are several questions presented in the animation. While the delivery of material carried out by their teachers is more likely to be boring, silent, and not responding to questions posed by the teacher. Thus it can be concluded that children are more interested in the animated video learning method compared to the method that is often taught by teachers at school.

Keywords: learning media; animated videos; understanding of learning: science

Abstrak

Penelitian ini dilakukan berdasarkan observasi lapangan pada siswa kelas III Sekolah Dasar. Penelitian ini bertujuan untuk meningkatkan pemahaman siswa terhadap pembelajaran IPA kelas III SD melalui metode pembelajaran media video animasi. Metode penelitian yang digunakan adalah metode kualitatif dengan melakukan pengamatan di lapangan dengan membentuk dua kelompok berbeda, menampilkan dua metode pembelajaran yang berbeda. Metode pertama dilakukan dengan cara menyajikan video animasi yang berkaitan dengan materi yang akan disampaikan dan metode kedua dilakukan dengan cara yang biasa dilakukan oleh guru pada saat mengajar, dan selanjutnya dilakukan observasi dengan sesi wawancara dan dokumentasi. Hasil penelitian yang didapatkan adalah banyak anak yang tertarik dengan metode animasi

video, mereka lebih fokus melihat layar dan aktif merespon ketika ada beberapa pertanyaan yang disajikan dalam animasi tersebut. Sedangkan penyampaian materi yang dilakukan oleh guru mereka lebih cenderung bosan, diam, dan tidak menanggapi pertanyaan yang diajukan guru. Dengan demikian dapat disimpulkan bahwa anak-anak lebih tertarik dengan metode pembelajaran video animasi dibandingkan dengan metode yang sering diajarkan oleh guru di sekolah

Kata kunci: media pembelajaran; video animasi; pemahaman belajar; IPA

INTRODUCTION

Education is very important for the development of individuals and society. Early childhood education in primary school plays a very important role in forming the basics of understanding and character. One of the subjects taught in primary school is Natural Science (IPA) which studies the natural world and natural phenomena around us. A good understanding of science is expected to help students learn about the world better and provide a good understanding of natural phenomena. The use of an appropriate learning environment is essential to improve students' understanding of science. One of the most popular learning media nowadays is animated video. Animated videos can help visualise subject matter so that students understand the material presented.

Animated video is a type of learning media that can convey information in an interesting way that is easily understood by children. Animated videos combine sight and sound to help students understand science concepts better. In this case, it is important to provide an analysis of the use of animated video media to understand scientific learning in grade 3 students. (Sukarini & Manuaba, 2021).

Science education plays an important role in developing students' understanding of the natural world. In the increasingly advanced digital era, learning using media is a rapidly growing trend. Animated video is a pervasive media. This article provides an analysis of the application of animated video media to improve students' understanding of science learning in grade 3 SD. (Ponza et al., 2018).

The presence of media in learning activities turns abstract material into

something concrete. Students are more motivated if the lessons provided bring students to the real and concrete world in accordance with the development of the maturity of elementary school age students. Animated video media can attract students' interest in the learning process. In general, primary school children are characterised by the fact that they like very interesting and interactive images, like to play and want to feel or do something directly.

Based on the search results of several primary school teachers in several cities in Indonesia about digital learning environments or commonly used materials, especially in science education, it turns out that learning videos are the most widely used source because they are proven to be effective but require a long time. Long learning time. From now on, learning videos with Canva app are the right and innovative solution. Learning media can be audio-visual, visual or audio-visual. Learning media in the form of videos is one of the audio-visual media innovations that can support learning to be more interesting.

Learning videos can help teachers deliver learning materials using technology. It is also a form of professional development for teachers in terms of using videos in

learning. One application that can support the creation of educational videos is Canva.

Canva app is a free online design tool that makes it possible to create videos anywhere, anytime. Teachers can easily access and use it. In addition, there is an attractive design where we can choose templates, functions and categories according to the needs of the desired theme. Learning media in the form of videos with Canva is efficient and effective for teachers, teachers everywhere can use this application. There are even special trainings for teachers on how to use the Canva application, such as the Jember City School Teacher Training, which aims to support teachers' needs in developing a learning environment. In addition to creating educational videos, it can also be used to create modules, presentations, posters, cards, etc. Selected objects can be animated to fit the whole, which is more attractive in presentations.

The rapid development of science, especially in the fields of science and technology, on the one hand does provide many benefits for the provision of various human needs. But on the other hand, this is also a tough challenge for us in

education to be able to prepare a generation of people with science literacy, namely people who are able to open their sensitivity, observe, filter, apply, and contribute to the development of science (and technology) itself to improve the welfare and benefit of society.

With the use of animated videos in science subjects, especially for children in elementary school, it can provide a more interesting and interactive learning experience.

LITERATURE REVIEW

The word media comes from the Latin word *medius*, which literally means in the middle, as an intermediary or in the introduction. Mass media is an intermediary or messenger from the sender of the message to the receiver. Learning media is a messenger technology that can be used for learning purposes, learning media is a physical means of delivering content. (Movitaria, 2021)

Learning media is a tool or material that serves to convey information or learning materials to students. Learning media can be in the form of printed, audio-visual or digital materials. (Candra Dewi & Negara, 2021). The use of the learning

environment can facilitate learning and improve students' understanding of the subject. The use of animated videos as learning media can significantly increase students' understanding of science lessons and the process of delivering material is more fun and not boring.

In analysing the application of animated video media to the understanding of science learning of grade III students, it is necessary to understand that animated video media can significantly improve students' understanding of science. Some of the factors that influence students' understanding of learning through animated videos are according to (Silaturrahmi et al., (2022) are as follows:

Firstly, Concept Visualisation, animated videos allow visualisation of abstract scientific concepts. With engaging moving images, students understand the concepts and relate them to the real world. This visualisation helps students develop stronger mental representations of the science concepts being taught.

Secondly, motivation and engagement, attractive and interactive animated videos can increase students' motivation and engagement in learning. Compared to traditional learning methods that only

use textbooks, students are more interested and engaged in the material presented through animated videos. This can help students maintain their attention and maximise their understanding of academic material,

Thirdly, Clear explanations and animated videos allow for clear and structured information. The story included in the animated video can help students follow the story and understand in detail the concepts being taught. Information conveyed through animated videos can be presented in a way that is easier for grade 3 students to understand, using language that is appropriate to their level of understanding. Fourth, Repetition and Tempo, animated videos can be repeated according to student needs. Students can replay the video if they need further explanation or if a concept is difficult to understand. In addition, the speed of video playback can be adjusted, allowing students to learn at a pace that suits their abilities, fifth, Combination of audio and images, The combination of audio and images in animated videos allows students to obtain information in a multi-sensory way. Students can listen to explanations through stories and also see visuals that support the concepts being taught.

This multisensory approach can improve students' understanding of learning. Conditions that make student learners able to acquire knowledge, skills, or attitudes. In this sense, teachers, textbooks and the school environment are media. More specifically, the definition of media in the learning process tends to be defined as graphic, photographic, or electronic tools, to capture, process, and reconstruct visual or verbal information. (Anshori, 2018).

So, the definition of learning media is a means or intermediary in the form of a tool that is able to convey information in the form of learning materials from communicators (teachers) to communicators (students) with the aim of facilitating the learning communication process.

Animated video media is a visual media that uses animation techniques to produce images that move continuously. The advantage of using animated video media is that it can attract children's attention, because the characters and settings displayed can be created in a unique and interesting way. In addition, the use of animated videos can also make the message to be conveyed easier to understand by the audience because it

can be presented visually and interactively. (Dariyadi, 2018).

In 2019-2022, the medium of student animated videos has become a popular and effective tool in education and learning. Here are some of the different opinions that people have about student animation videos back in the day: Firstly, Combining Visuals and Storytelling, Experts generally agree that animated educational videos are effective because they connect engaging visuals with a clear narrative. Animation can make complex information easier to understand and avoid the rigidity of more traditional teaching materials. (Aini et al., 2021).

Secondly, Increases engagement and understanding, It helps students stay focussed and increases their understanding of the subject (Walangadi & Pratama, 2020). Third, the ability to visualise abstract concepts, animation can help students visualise abstract or difficult-to-understand concepts. Visually presented images allow students to illustrate complex ideas more easily. (Caesaria et al., 2020).

Fourth, Repetition and Consistency, animated videos allow for consistent reproduction of material. Students can

play the video as many times as necessary to deepen their understanding while remaining consistent with the content and presentation style. (Irhasyuarna & Yulinda, 2022).

Fifth, Personalisation and Interaction Some animated student video streams allow students to choose their own learning and interact with the content. This can increase student engagement and provide more personalised learning. (Nugraha et al., 2020).

Sixth, Multimedia Approach, Video animation learning can integrate multimedia elements such as sound, text, images and motion animation to convey information in a more comprehensive and interesting way. (Ariani & Festiyed, 2019).

Technology-based media that are often used are powerpoint, video, and flash media. However, video is the most dominant technology-based media used in online science learning. Science learning is a lesson that is difficult to understand because it is abstract. Science learning has concepts related to daily life and has abstract concepts. So based on the analysis results, it is said that most students have difficulty in

understanding science lessons. (Wisada & Sudarma, 2019).

The animation video developed can be applied in the learning process because it can facilitate students in understanding learning materials. The content of this animated video is based on core competencies, metrics and learning objectives. In addition, the suitability of animated video media with the characteristics of elementary school students and the material presented is easy to understand. The suitability of the media with the material and characteristics of students makes it easier for students to absorb the information presented. Primary school students tend to be more interested in how things unfold, causing students to want to know the reason for the event. (Supriyani et al., 2021).

Students' mental readiness, especially in terms of learning concentration, greatly affects the comprehension of material in the learning process in class. This assumption is supported by a review of educational experts who state that low student achievement is largely due to the weak ability of children to concentrate. One way that can be done to improve student concentration is by developing critical thinking skills in learning. (Aviana

& Hidayah, 2015). The low level of student concentration can be caused by several factors, including the classroom atmosphere.

Ideal elementary science learning consists of several components of goals, materials, teaching materials, methods, and media. Learning media as one of the components in teaching and learning activities (KBM) and learning resources used in learning are selected on the basis of objectives and learning materials that have been delivered and can be received by students properly. Lack of teacher creativity is one of the factors for low student motivation in participating in lessons, so that student learning outcomes are less than satisfactory. In reality in the field, there are still many teachers who convey a subject matter by using the lecture method only. (Pambudi et al., 2019).

Learning is the process by which a person acquires, processes, stores and recalls new information or skills through experience or education. It involves a complex interaction between biological, psychological, social and environmental factors (Sutianah & Cucu, 2022).

Some learning theories are cognitive learning, behavioural learning and social

learning. These theories offer different views on how learning occurs and the factors that influence it. It is important to note that the understanding of learning is not limited to the classroom or academic context. Learning can happen anywhere, anytime, through life experiences, social interactions and more. (Rosnawati, 2021).

Therefore, understanding learning can help a person in developing skills and knowledge in various fields of life.

What can be concluded from understanding learning is that learning is a complex process that involves biological, psychological, social, and environmental factors. The learning process can occur anywhere and anytime, through life experiences, social interactions, and the environment. Learning theories such as cognitive learning theory, behavioural learning theory and social learning theory provide different views on how learning occurs and the factors that influence it. Understanding learning can help a person develop skills and knowledge in many aspects of life. (Wibowo, 2020).

Science plays an important role in understanding the world we live in and provides an understanding of how the

world and the universe work. Science also has vast practical applications in everyday life, including technology, health, industry and the environment. Therefore, science is very important for the progress and development of mankind and for the survival of the planet.

At the primary school level, science is one of the subjects that plays an important role in education because science can be a provision for students in facing various challenges in the global era. Therefore, we need a way of learning that can prepare students to have good competence and science and technology literacy, be able to think logically, critically, creatively, argue correctly, be able to communicate and collaborate. (Hisbullah & Firman, 2019).

Science literacy can be termed as science literacy, which is the ability to understand science, communicate science (oral and written), and apply science skills to solve problems so that they have a high attitude and sensitivity to themselves and their environment in making decisions based on scientific considerations. (Pertiwati et al., 2018).

METHODS OF RESEARCH

This qualitative research uses the case study method because the method allows for in-depth data analysis and descriptive explanations of very confusing phenomena. (Ahyar et al., 2020). This type of research is intended to describe the objective state of the object under study in more detail on the variables under study. The data for this qualitative study goes directly to the field, therefore any conclusions about its significance must be based on the data obtained. In this study, a case study research method was used. Case study researchers try to paint a picture of human life and action in a particular setting using cases. Respondents or subjects used as research are third grade elementary school children. The technique of taking subjects is based on purposive sampling, which uses certain considerations or criteria. The data collection tool in this research is the researcher himself (human instrument). The use of data collection techniques in the form of interviews and documentation. To ensure the validity of the data in this study, the author conducted transferability, reliability and confirmation testing procedures. The method of analysing the data collected in

this study follows the steps consisting of data collection, data reduction, data presentation, and inference. (Moleong, 2021).

RESULTS AND DISCUSSION

Testing was carried out by forming two groups. Where the first group uses an animated video media learning method related to the material presented and the second method is carried out in the usual way by teachers when teaching.

In the first group, the students looked more excited, active, and responsive in responding to various questions that arose in the animation. The interesting animations and fun storylines attracted their attention and motivated them to learn and remember the materials presented in the animations. The animated videos help them understand the concepts easily and the interesting visualisations and clear explanations help in connecting the concepts taught with real-world concepts. And students also consider that the viewing of animated videos of science learning was fun and reduced their boredom in learning.

Whereas in the second group, students were more silent, not focused on listening to the teacher's explanation in front, they

spent a lot of learning time chatting with their peers rather than listening to the teacher's explanation in front. Some students made noise in the classroom, and ignored the teacher's reprimand at the front.

Because of this, the teacher unconsciously yells at them. This can cause students to feel fear and stress, creating an unsafe learning environment and making students feel anxious. Decreased motivation to learn resulting in students' loss of interest in the class and lack of confidence to participate in achieving their academic goals. Loss of self-confidence, yelling from a teacher can destroy students' self-confidence, causing them to doubt their abilities and when it is their turn to perform in front of the class it affects them mentally. And the relationship between teacher and student can be destroyed by the teacher's yelling, making them difficult to approach and interact with.

In accordance with research conducted by Ratnawati & Mir'atul, (2021) Academic success, which is strongly influenced by student learning motivation, will always be maintained and even increased if the teacher is able to manage the class as well as possible so that students always have a reason to attend and participate in

the class. Teachers as classroom managers can make several efforts that can increase student learning motivation, including: 1) captivate students' interest with an online class that the teacher manages by utilising tools and facilities as efficiently as possible; 2) make the class more social by still paying attention and providing space for students to interact with their classmates; 3) provide quizzes, assessments and challenges that trigger students' competitive nature; and 4) let students participate so that they feel needed and have their aspirations heard in the classroom.

Teachers' responses to the animated learning video were positive. Firstly, it enriches students' learning experience and makes complex material easier to understand. Secondly, it is related to the material presented so that it helps to strengthen students' understanding of the concepts taught. Third, it contains correct and reliable information that supports learning. And fourthly, the animated video is in line with the teacher's learning style so that the animated video can be a very effective tool for the teacher.

Based on some of the opinions presented, it can be concluded that the use of animated video media for science

learning for grade III elementary school students received a positive response from the students. They feel enthusiastic, interested, and enjoy the use of this animated video media in the learning process. Animated video media helps improve students' learning understanding, interesting visualisation, clear explanations, and repetition of information in animated videos provide support in understanding science concepts.

Animated video media is considered more fun for students, it can help create a more interesting learning environment, reduce boredom, and increase student involvement in the learning process. The use of animated video media can provide a better alternative way for students with limitations in understanding the language conveyed. And visual animations help clarify science concepts, allowing students to understand the material visually, and supporting better student understanding.

CONCLUSION

The use of animated video media can help teachers and students in the teaching and learning process and make the learning atmosphere more fun and interesting. Animated video media can help improve students' learning comprehension through visualisation,

repetition of information, and clear explanations. Animated video media becomes a bridge for students who have limitations in language understanding. And with the use of this animated video media can increase student activeness in the classroom. Although there are many benefits in using this learning video media, it should be noted that the dependence on animated video media can reduce direct interaction between teachers and students, so that it can reduce the opportunity for students to discuss, ask questions, or actively participate in learning. To overcome this problem, the use of animated video media can be interspersed with explanations and reinforcement of material by the teacher so that the interaction between the teacher and students is not interrupted and often conduct discussions and questions and answers related to the material conveyed through animated video media.

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