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VIDEO MEDIA-BASED LEARNING MODEL ON ECOSYSTEM SCIENCE MATERIAL FOR GRADE V STUDENTS IN SDN BEUTONG

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ABSTRACT

The text discusses the challenges faced by educators in improving learning success, particularly in the field of science at SDN Beutong. Science education is crucial as it relates to everyday life and understanding the universe. To optimize the learning process, it is important for teachers to use effective teaching methods that allow students to efficiently learn and achieve desired results. One way to improve science learning is by incorporating video media, specifically in teaching about ecosystems. Video media helps to engage students, encourage critical thinking, and increase the effectiveness of learning. The article aims to describe the video media-based learning model used in teaching science ecosystem material to fifth-grade students at SDN Beutong. The study utilized a descriptive qualitative method, with researchers observing the learning process through direct observation without active participation. The research findings indicated that the use of an animated video-based simulation model improved student learning outcomes in ecosystem learning at SDN Beutong.

Keywords: *learning model, video media, ecosystem.*

INTRODUCTION

Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed for themselves, society, and the nation (Kurniawan, 2016). With the development of student potential and skills, various fields in life will also develop.

From the definition of education above, it is clear that the implementation of education, in general, is to develop the quality and potential of human resources to build a more advanced nation. The development of science and technology will also affect the quality of the learning system in schools, especially in State Elementary Schools (SDN), which means that with the presence of modern technology, schools are required to be more creative in making learning interesting and effective, both in the learning process and learning media, so that students will be happy, interested, and enthusiastic during the learning process then students can get maximum learning results.

In the learning process, there are several subjects taught at SDN, one of which is the subject of Science (Natural Sciences). Natural science (IPA) is a science that is relevant to direct human life and obtains knowledge about the entire universe (Harefa, 2020). Therefore, science is a subject with a lot of material and requires a broad understanding, then in delivering the material, it must also require varied methods and media.

Learning media is an element that cannot be separated from the teaching and learning process in a school, as well as in this day and age. The importance of the learning process, under no circumstances should it be stopped, so learning must be done effectively (Ammy & Wahyuni, 2020). Education is the most important thing to make high quality students. Basically, school is the vehicle for the most basic teaching and learning process, and also as a process of changing behavior in a better direction.

Students are required to know about ecosystems in science learning. However, the majority of teachers have not utilized learning media in all science lessons resulting in low student learning outcomes. Although there are various kinds of media that can be used to convey information, including video media to learn ecosystem material, there are still many teachers who use the lecture method without using any media, and student learning outcomes will be influenced by question and answer.

Learning the use of video media to optimize learning media, especially in learning about ecosystems, is one way to improve the success of science

learning. Video media is a medium used to send messages from source to receiver (Prendes et al., 2017). By using video media, teachers can invite students to be more active and think critically about ecosystems, which can help them learn more effectively.

Media is one of the components of communication, namely as a messenger from the communicator to the communicant. In the learning media, it contains material that will be delivered (Laksono et al., 2020). The existence of learning media is very helpful for elementary school children who still think concretely in understanding the material presented by the teacher.

There are many kinds of IT-based learning media used in schools, ranging from animation media to learning CDs, and interactive videos. According to Sukiman in Kurniawan (2016), learning video media is a set of components or media that can display images and sound at the same time. Contains practical guidance on target, presented through audio-visual presentations (images and sound) equipped with a clear and easy-to-understand Indonesian language guiding voice and packaged in an autorun B program Naswa in Noerr (2021). Using interactive videos also allows teachers to be more creative in making media, and be able to interact and communicate well to students.

According to Farista (2022), video is a visible learning material (audio visual) that can be used to convey messages / subject matter. It is said to be heard because the elements of hearing (audio) and visual/video elements (visible) can be presented simultaneously or video can be interpreted as learning materials that are packaged through videotape and can be seen through a video / VCD player connected to a television monitor.

According to Hafid (2011), the word "media" comes from the Latin word, which is the plural form of the word "medium" Literally the word means intermediary or messenger technology that can be utilized for learning purposes. So the media is an extension of the teacher. Media is a means of communication in print and audio-visual form, including hardware technology.

According to Yuanta (2020), video media is one type of audiovisual media and can describe a moving object with a sound that matches the content of the image. The role of video is as an information presenter. Teaching through audio visual is the production and use of material whose absorption is through sight and hearing and does not entirely depend on understanding words or similar symbols.

According to Anaky in Purwati (2015), the advantages and disadvantages of video-based learning are as follows: The advantages of video media include

presenting objects or learning messages realistically, so it is very good for enriching the learning experience. It also has its own charm and can be a trigger or motivator for students to learn. In addition, it is also very good for psychomotor learning, can reduce learning boredom, especially if combined with lecture teaching techniques and discussion of broadcasted problems, and can improve memory or retention of learning objects that students learn. It is difficult to obtain because it requires electrical energy, making it impossible to revive everywhere, and the unidirectional nature of communication prevents it from offering opportunities to buy feedback. In addition, it is easy to be tempted to sell clean VCD tapes in entertainment venues that will disrupt the learning atmosphere.

According to Oemar Hamalik in Arsyad (2017), learning media are tools, methods, and techniques used in order to further streamline communication and interaction between teachers and students in the education and teaching process at school. Meanwhile, according to Suprapto et al, stated that learning media is an effective auxiliary tool that can be used by teachers to achieve the desired goals.

According to Anggraeni (2019), Natural Science is a subject related to systematic knowledge about nature. Besides being a collection of facts, ideas, or principles, science is also a discovery process. Science learning in elementary schools and madrasah ibtidaiyah is expected to be a vehicle for students to gain knowledge both about themselves and about nature.

According to Yuliamalia (2019), the ecosystem is a complex unit in which there is a relationship between organisms and their environment that affects each other or can be interpreted as an ecosystem is a comprehensive unity between influential elements in the environment, both abiotic and biotic or living and non-living things.

The purpose of this study is to compare student learning outcomes before and after the application of a video media-based simulation model to ascertain whether this will result in improved student learning outcomes in understanding ecosystem material. Because according to the researcher, this model greatly contributes to children's enthusiasm and involvement in learning. Students will be more motivated to learn if the video media they watch is displayed in a more interesting way, which will have an impact on their learning outcomes. Therefore, the use of learning media can improve student learning outcomes and make the learning process more interesting.

This is in accordance with Maretyaningrum's research which found that although elementary school students should learn in a concrete or more real way, video media has not been widely used in elementary schools so it has an

impact on students' poor learning outcomes (Mahmudah & Fauzia, 2022) . As a result, this video media is very well done to help students understand the material, especially with live simulations that will help them remember the learning process.

METHODS

The method used is descriptive qualitative. In this study, researchers relied on researcher observation or observation to collect data through direct observation in the field. In the sense that the researcher does not participate in the activity, the observation is passive participatory observation (passive participation). Grade V students at SDN Beutong were used as the subject of this research. The research data is the learning process about ecosystems which is one of the materials from natural science learning.

RESULTS AND DISCUSSION

One indicator of successful learning is the use of video-based learning media. Through the process of character education, students can learn and improve student learning. The learning media used in this research process is learning about ecosystems using video media in class V SDN Beutong.

Learning natural science with the material of the function of plant parts based on video media in class V SDN Beutong. By describing the description of video content and also displaying a video about the ecosystem. In the video, there is an explanation of the definition of ecosystems, biotic components, interactions between living things, and food chains.

The presentation and explanation of natural science subject matter about ecosystems contained in the video that has been shown to the fifth-grade students of SDN Beutong are as follows:

1. Understanding Ecosystems

   An ecosystem is a collection of living or biotic and abiotic or non-living things that interact and depend on each other. Biotic components are humans, animals, plants, and various invisible microorganisms while abiotic components are sunlight, water, air, rocks, and soil.

2. Biotic Component

   Biotic components are composed of individuals, populations, and communities. An individual is a single living thing, such as a fish. A population is a collection of similar individuals, for example, a fish population. A community is a collection of populations that live in one place, for example in a pond there is a fish population, a lotus population, and an algae population.

3. Interaction between living things

Two types of living things can interact with each other. Interactions between living things are divided into several types, namely:

a. Competency is the competition between two living things, for example, the competition between lions and hyenas for food.
b. Predation is an interaction where one living thing eats another living thing, for example, a lion eating a zebra.
c. Symbiosis mutualism is an interaction that is mutually beneficial, for example, in the interaction of flowers and bees, flowers are lucky because they are helped to pollinate while bees are lucky because they get honey from flowers.
d. Paratystic symbiosis is an interaction that is detrimental to one party while the other benefits, for example, in the interaction of the parasite and the mango tree, the parasite benefits because it gets food from the tree while the mango tree loses because the food is taken by the parasite.
e. Symbiotic commensalism is an interaction that benefits one party while the other party does not benefit and is not harmed, for example, the interaction of orchids and trees, orchids benefit from getting a place to live while trees do not lose or gain.

4. Food Chain

Silent food interactions between living things create food chains. Examples of food chains are as follows; producers can make their own food through photosynthesis, the grass is eaten by grasshoppers, grasshoppers are first or primary consumers, grasshoppers are eaten by frogs, frogs are second or secondary consumers, frogs are eaten by snakes, snakes are third or tertiary consumers, snakes are eaten by eagles, eagles are top consumers because they are no longer eaten by other animals, finally the remaining dead plants and animals will be decomposed by decomposers, such as bacteria, worm or fungi.

During the learning process. students' seriousness in responding to the material shows this. When the teacher monitors students during the teaching and learning process and when the teacher shows videos related to the material, they have very high activeness and enthusiasm. The positive attitude that students have in responding or responding to the material presented.

In most cases, teacher learning is influenced by the use of video media. This is in accordance with several studies that state that the use of videos can support the progress of both the teacher and the substitute teacher. In addition, it turns out that teacher passivity poses a challenge when it comes to using videos. Academically, instructors will generally only play latent footage with hardly any further development from showing the media.

Observations of the grade V students of SDN Beutong revealed that almost all of them were seen paying attention to the teacher's explanation while participating in the learning activities. In addition, it was also seen that the students were very inspired by the videos shown. This is supported by the exposure related to the use of videos in knowing where more than 8 students strongly agreed with the assumption of the video media used, while the rest agreed. This is also in line with the teacher's response which complimented the respondents' responses to the questionnaire. This is shown by the teacher's average gain of 86.7% and the average gain of grade V students of SDN Beutong of 77.3%, both of which show a fairly high level of agreement.

Based on these observations, the research found that the application of video media in science learning about ecosystems in class V SDN Beutong was able to increase student attention and facilitate understanding of the material. In addition, it is easier for teachers to convey lesson content when using video media. At SDN Beutong, teachers and students of grade V SDN Beutong were enthusiastic about the use of video media in learning science about ecosystems. However, in a future implementation, grade V educators at SDN Beutong do not involve video media in their educational experience due to specific limitations that are felt to hinder educators, and are expected to put more effort into determining footage that is appropriate to the setting they need to teach. Nonetheless, the results of the meetings with the students showed a very definite reaction to the use of mechanical media, especially learning recordings because they match the learning qualities of computerized-age students.\

CONCLUSION

The availability of video content is very useful for teachers in the process of delivering information to students, because the purpose of learning media is as a means of communication between educators and students, and can further develop. The use of video media has a positive impact, namely, students are very inspired by the videos shown, able to increase student attention and facilitate understanding of the material, and students are very active and enthusiastic when the teacher monitors them during the teaching and learning process. The positive attitude that students have in responding or responding to the material presented. Based on these observations, the research found that the application of video media in science learning about ecosystems in class V SDN Beutong was able to increase student attention and facilitate understanding of the material. In addition, teachers find it easier to convey lesson content when using video media. At SDN Beutong, teachers and students of grade V SDN Beutong were enthusiastic about the use of video media in learning science about ecosystems. This was shown by the average teacher score of 86.7% and the average student score of 77.3%, both of which showed a fairly high level of agreement.

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REFERENCES

Ammy, P. M., & Wahyuni, S. (2020). Analisis motivasi belajar mahasiswa menggunakan video pembelajaran sebagai alternatif pembelajaran jarak jauh (PJJ). *Jurnal Matematics Pedagogic*, *5*(1), 27–35.

Anggraeni, S. (2019). Ilmu Pengetahuan Alam. In T. Rochman (Ed.), *Risalah muslim* (II). Pusat Perbukuan Departemen Pendidikan Nasional.

Arsyad, A. (2017). Media pembelajaran. In A. Rahman (Ed.), *Rajawali Pers*. Rajawali Pers,.

Farista, R. (2022). Pengembangan Video Pembelajaran. *Jurnal Analsis Sosisal*, *3*(1), 1–28.

Hafid, H. A. (2011). Sumber Dan Media Pembelajaran. *Jurnal Wawasan Keislaman*, *6*(2), 69–78.

Harefa, D. (2020). *Teori Pengenalan Ilmu Pengetahuan Alam Sejak Dini*. PM Publisher.

Kurniawan, D. (2016). Pengaruh Penggunaan Media Video Pembelajaran terhadap Prestasi Belajar Ilmu Pengetahuan Sosial Siswa Kelas V SD Se-kecamatan Gedangsari Gunungkidul Tahun Ajaran 2015/2016. *Jurnal Pendidikan Ke-SD-An*, *3*(1), 21–26.

Laksono, D., Iriansyah, H. S., & Oktaviana, E. (2020). Pengembangan Media Pembelajaran Video Interakif Powtoon Pada Mata Pelajaran IPA Materi Komponen Ekosistem. *Jurnal Nasional Pendidikan STKIP Kusuma Negara III*, *1*(1), 255–262.

Mahmudah, S., & Fauzia, F. (2022). Penerapan Model Simulasi Tentang Pembelajaran Mitigasi Bencana Alam Gempa Bumi Berbasis Video Animasi Untuk Meningkatkan Hasil Belajar Siswa. *Jurnal Basicedu*, *6*(1), 633–645. https://doi.org/10.31004/basicedu.v6i1.1974

Noerr, I. M. (2021). Pengembangan Media Pembelajaran Multimedia Video Editor Interaktif Power Direktor Pada Materi Sistem Sirkulasi Kelas Xi Sma/Ma. *Jurnal Bio Education*, *6*(1), 257–277.

Prendes, P., Castañeda, L., Gutiérrez, I., & Sánchez, M. M. (2017). Personal Learning Environments in Future Professionals: Nor Natives or Residents, Just Survivors. *International Journal of Information and Education Technology*, *7*(3), 172–178. https://doi.org/10.18178/ijiet.2017.7.3.861

Purwati B. (2015). Pengembangan Media Video Pembelajaran Matematika dengan Model Assure. *Jurnal Kebijakan Dan Pengembangan Pendidikan*, *1*(3), h. 42-47.

Yuanta, F. (2020). Pengembangan Media Video Pembelajaran Ilmu Pengetahuan Sosial pada Siswa Sekolah Dasar. *Trapsila: Jurnal Pendidikan Dasar*, *1*(02), 91. https://doi.org/10.30742/tpd.v1i02.816

Yuliamalia, L. (2019). Tradisi Larung Saji Sebagai Upaya Menjaga Ekosistem Di Wisata Telaga Ngebel Ponorogo (Studi Literatur). *Agastya: Jurnal Sejarah Dan Pembelajarannya*, *9*(2), 135–145. https://doi.org/10.25273/ajsp.v9i2.3878

Ammy, P. M., & Wahyuni, S. (2020). Analisis motivasi belajar mahasiswa menggunakan video pembelajaran sebagai alternatif pembelajaran jarak jauh (PJJ). *Jurnal Matematics Pedagogic*, *5*(1), 27–35.

Anggraeni, S. (2019). Ilmu Pengetahuan Alam. In T. Rochman (Ed.), *Risalah muslim* (II). Pusat Perbukuan Departemen Pendidikan Nasional.

Arsyad, A. (2017). Media pembelajaran. In A. Rahman (Ed.), *Rajawali Pers*. Rajawali Pers,.

Farista, R. (2022). Pengembangan Video Pembelajaran. *Jurnal Analsis Sosisal*, *3*(1), 1–28.

Hafid, H. A. (2011). Sumber Dan Media Pembelajaran. *Jurnal Wawasan Keislaman*, *6*(2), 69–78.

Harefa, D. (2020). *Teori Pengenalan Ilmu Pengetahuan Alam Sejak Dini*. PM Publisher.

Kurniawan, D. (2016). Pengaruh Penggunaan Media Video Pembelajaran terhadap Prestasi Belajar Ilmu Pengetahuan Sosial Siswa Kelas V SD Se-kecamatan Gedangsari Gunungkidul Tahun Ajaran 2015/2016. *Jurnal Pendidikan Ke-SD-An*, *3*(1), 21–26.

Laksono, D., Iriansyah, H. S., & Oktaviana, E. (2020). Pengembangan Media Pembelajaran Video Interakif Powtoon Pada Mata Pelajaran IPA Materi Komponen Ekosistem. *Jurnal Nasional Pendidikan STKIP Kusuma Negara III*, *1*(1), 255–262.

Mahmudah, S., & Fauzia, F. (2022). Penerapan Model Simulasi Tentang Pembelajaran Mitigasi Bencana Alam Gempa Bumi Berbasis Video Animasi Untuk Meningkatkan Hasil Belajar Siswa. *Jurnal Basicedu*, *6*(1), 633–645. https://doi.org/10.31004/basicedu.v6i1.1974

Noerr, I. M. (2021). Pengembangan Media Pembelajaran Multimedia Video Editor Interaktif Power Direktor Pada Materi Sistem Sirkulasi Kelas Xi Sma/Ma. *Jurnal Bio Education*, *6*(1), 257–277.

Prendes, P., Castañeda, L., Gutiérrez, I., & Sánchez, M. M. (2017).

Personal Learning Environments in Future Professionals: Nor Natives or Residents, Just Survivors. *International Journal of Information and Education Technology*, *7*(3), 172–178. https://doi.org/10.18178/ijiet.2017.7.3.861

Purwati B. (2015). Pengembangan Media Video Pembelajaran Matematika dengan Model Assure. *Jurnal Kebijakan Dan Pengembangan Pendidikan*, *1*(3), h. 42-47.

Yuanta, F. (2020). Pengembangan Media Video Pembelajaran Ilmu Pengetahuan Sosial pada Siswa Sekolah Dasar. *Trapsila: Jurnal Pendidikan Dasar*, *1*(02), 91. https://doi.org/10.30742/tpd.v1i02.816

Yuliamalia, L. (2019). Tradisi Larung Saji Sebagai Upaya Menjaga Ekosistem Di Wisata Telaga Ngebel Ponorogo (Studi Literatur). *Agastya: Jurnal Sejarah Dan Pembelajarannya*, *9*(2), 135–145. https://doi.org/10.25273/ajsp.v9i2.3878