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The Influence of Animation Media on the Learning Outcomes of Grade 3 Students in Science Subjects at Elementary School 091635 Kerasaan

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A B S T R A C T

The purpose of this study is to investigate how using animation media affects elementary school pupils' learning of the natural sciences (IPA). An experiment with a pre- and post-test control group design was the study methodology employed. Two sets of primary school pupils, each with 26 students in a classroom, made up the research sample. The experimental group received instruction using animation medium, whereas the other group was given conventional learning without animation media (control group). Learning outcome data is measured through tests that are relevant to the science material being taught. A difference test between pre- and post-test scores, together with statistical comparisons between the two groups, were used to analyze the data. According to the study's findings, using animation media considerably enhances primary school pupils' scientific learning outcomes when it comes to traditional teaching strategies. These results confirm that animation media can be a useful teaching tool that helps elementary school pupils understand science subjects more fully while also being engaging for them. This study significantly advances the creation of more creative and pertinent learning strategies to improve students' academic achievement in science at the elementary school level

INTRODUCTION

Science learning methods in elementary schools often use conventional approaches, such as textbooks and blackboards, which may be less interesting for some students, especially those who are more responsive to visual and interactive media. With that, researchers offer a new innovation, namely Animation Media. Animation Media offers a more dynamic and visual approach to conveying complex science concepts, such as natural processes, atomic structure, or the hydrological cycle. Animation can help students visualize these ideas in a manner that is simpler to comprehend and recall.

The learning process that takes place in schools is designed to encourage the occurrence of a learning process that can foster children's knowledge, attitudes and skills. Where in carrying out this learning will encounter many difficulties that lead to less than satisfactory learning outcomes. Education is one thing that is inseparable from human life. Through education, humans can grow and develop the potential that exists within themselves, both spiritually and physically, to become better so that they can educate the country's vitality and confront difficulties in the times ahead. Education not only helps us reach our full potential but also develops our ability to reason, evaluate, and make decisions. Developing one's own character is another objective of education, which leads to improved human resources. Education, in the words of Ki Hajar Dewantara (Neolaka, 2017), is an endeavor to develop children's character, mind, and body in order to progress the perfection of life, that is, raising children in harmony with society and the natural world. Education, in the words of Sagar (Astuti, 2022), is the process of transforming pupils' conduct into that of adults who can live independently and as contributing members of society in their natural surroundings. Thus, it may be inferred from According to a number of definitions given above, education is the attempt made by students to acquire positive attitudes, knowledge, and abilities in order to reach their full potential. Innovation is a constant in classroom instruction, particularly when it comes to the delivery of the learning process through technology.

Numerous definitions stated above state that education is an endeavor on the part of students to develop positive attitudes, skills, and information in order to realize their full potential. In the classroom, innovation is a constant, especially when it comes to using technology to provide the learning experience existence of teaching aids, innovation will occur in learning and the message to be conveyed to students can be achieved and students become interested in the media used. So it can be concluded that in the learning process, technology is needed, one of which is from the media. The correctness of the media being used determines whether the learning process is successful or unsuccessful. The educational process that occurs in schools is planned to encourage the occurrence of a learning process that can foster children's knowledge, attitudes and skills. According to Laily Rahmayanti (2016:431), she stated that animated video media is an audiovisual media by combining animated images that can move with audio according to the animated character. So animated learning media is a type of media that consists of an assortment of photos created with intriguing sounds and motion to create a sense of movement and contain learning values.

The application of Animation Media cannot be separated from the objectives to be achieved in To ensure that the application of animation media is beneficial and useful, the appropriate approach should be selected in line with the established goals. Students will find it easier to study while using animation media since the information is presented in an understandable manner and because more students will be drawn to the lesson. improve students' learning achievement and learning motivation.

LITERATURE REVIEW

Learning is the process of practicing, gaining information or intelligence, and altering responses or behavior brought on by experience. Learning can also be understood as an experiential process of self-improvement, predicated on an individual's capacity to learn under the direction of educators. In schools, learning essentially serves as the centerpiece of a number of educational procedures. This makes sense since the manner in which the teaching and learning process is carried out largely determines whether educational goals are successful or not. As a result, the learning process is the primary concern at all times, particularly for education specialists.

Learning is essentially a process of interaction or communication with all situations around an individual. By interacting, individuals are directed to gain experience through seeing, hearing, observing and understanding something. Learning is an intentional activity that people engage in to increase their own abilities. Through learning, a person goes from not knowing to knowing, from not understanding to understanding, from not experiencing to experiencing, and from feeling something different to feeling something different.

Definition of Learning

Learning is an action rather than an outcome or objective. Learning is more than simply remembering; it's also about experiencing. Learning outcomes are behavioral changes rather than mastery of training results. Rosyid (2021:36).

According to Khasanah (2022:2) learning is a change in position or ability achieved by a person through activity. Changes in position will be obtained directly from a person's natural growth process.

So it can be concluded from this theory that learning is a process carried out by a person to change for the better.

Characteristics of Learning

According to Baharudin (2015:18)

- There is a change in behaviour
- Changes in behavior will not change or remain
- Changes in behavior are potential, meaning that changes in behavior do not have to be observed directly during learning.
- Changes in behavior are the result of learning experiences
- Experience or practice can provide encouragement to change behavior.

Meanwhile, according to Faizah (2017:180)

- Activities carried out consciously
- There are changes in behavior that include cognitive, affective and physical-motor aspects
- There is interaction with the environment and training

Based on the opinions of experts, it can be said that learning is characterized by a purposeful process of behavioral modification that is permanent, unchanging, and includes cognitive, affective, and physical-motor components that are tailored to each student's needs and maturity level without the use of force or coercion.

Learning Objectives

According to Darianato (2014) in his book, the purpose of learning is to develop critical and creative thinking skills, develop social skills and improve the quality of human resources.

The purpose of learning is described as to develop the potential of students optimally, form a personality with noble morals and prepare students to participate in a democratic society (Supriadi 2018)

The expert opinion above can be concluded that the purpose of learning includes developing critical and creative thinking skills, social skills, and economic productivity, gaining a deep understanding of the material, the ability to solve problems, motivation and interest in learning, developing the potential of students optimally, forming a personality with noble morals and preparing students to participate in a democratic society.

Types of Learning Media

According to Nurfadillah (2021:12) basically media are grouped into 4 types, namely as follows:

- **Audio Media**

Audio media is a learning media that only involves the sense of hearing. Judging from the messages received, this audio media receives verbal and nonverbal messages. The advantages of audio media are that it is easy to obtain. data from this media is also practical to transfer and more efficient and there are many others. The disadvantages of audio media are that the communication nature is one-way. The function of audio media in learning is that students are more active in teaching and learning activities. This activity is caused by audio media that contains elements of novelty in learning. Types of audio media are phonographs (grammaphones), open reel tapes, cassette tapes, compact discs, radios and language laboratories.

- **Visual Media**

Visual media is a learning media that involves the sense of sight. There are 2 types of messages that can be loaded from visual media, namely verbal and nonverbal messages. The types of visual messages are images, graphs, diagrams, charts and maps. In addition, there are also types of visual media that are divided into two, namely still visual media and moving visual media. The function of visual media can also attract attention, clarify presentations, describe facts that may be easy to digest and remember, presented in visual form. Visual verbal

nonverbal-graphic message distributors consist of books, modules, comics, journal magazines, posters, visual boards and so on.

- **Audiovisual Media**

Audiovisual media is a learning tool that simultaneously engages the senses of hearing and sight. Not only may verbal and nonverbal messages be heard through audio media, but also verbal and nonverbal messages can be seen through visual media. A sound motion picture (movie), television show, or video are examples of pure audiovisual media. On the other hand, audiovisual media is separated into two categories. The second category is impure audiovisual, which includes slideshows and other visual devices with audio components. from cassette recordings that are used simultaneously in the learning process.

- **Multimedia**

Multimedia is an educational tool that uses a variety of senses to facilitate learning. All that can be experienced directly, through computers and the internet, or through direct experience, is included in this media.

Audie (2019: 595) asserts that there exist multiple categories of educational media, including audio, visual, and audiovisual. Audiovisual learning media tends to be more effective than the other two types in motivating students because it does not make them bored.

According to Setiawan (2023:2) there are 6 classifications of learning media, namely, projected media, media that is not projected, computer-based, audio, and video.

It is clear from the preceding description that there are various categories of learning media, including audio, visual, audiovisual, and multimedia. Furthermore, because learning media may be used anywhere, they provide a fantastic support for the teaching and learning process both inside and outside of the classroom. Therefore, learning media can simultaneously engage many senses of sight in a messaging process. The messages conveyed through learning media can be verbal and nonverbal, like in visual media, as well as auditory and nonverbal, like in audio media. Consequently, the kinds of media described by several experts have very broad roles and meanings.

Animation Media

- **Definition of Animation Media**

Animation is the movement of image objects or text that are arranged in a regular manner so that they look like they are moving (Maulana and Riyanto, 2014:1).

According to Ariyati and Misriati (2016:117) " Animation is a visual transformation that occurs over time and greatly enhances the potency of multimedia projects and web sites".

According to Blair (2010), good animation is animation that pays attention to simple things such as being able to describe the emotions of the character, as well as body gestures and reactions. All of these things are combined into the character to make the animation more alive and expressive (p. 105).

According to Wells and Moore (2018), the reasons for choosing animation as a work compared to live-action are outlined in the following points:

1. Animation offers a different expression and allows for greater creative freedom.
2. Animation provides a greater level of control in the work
3. Animation representation is different from 'reality'
4. Animation can achieve any visual imaginable, and can even create 'impossible' art in live-action films (pp. 9-10).

The conclusion from several definitions of animation that have been quoted previously is: Animation is a series of images that form a movement. The superior ability of animation compared to other media such as static images (not moving) is that animation is able to explain changes in conditions over time. From the advantages of animation, it can help explain the sequence of events in the film

- **Steps of Animation Media**

Media animation is the process of creating moving images or videos using techniques such as traditional animation, computer animation, or a mixture of both. Here is an overview of the steps involved in making media animation:

1. Ideation and concept development: This process involves creating ideas for animation and developing them into more specific concepts. This includes determining the theme, story, characters, and other visual elements.
2. Storyboarding: Once the concept is developed, the animation is divided into scenes or panels, known as storyboards. The storyboard shows the sequence of events and helps visualize the final animation.
3. Character design and development: Characters are an important element of media animation, and they must be carefully designed and developed. This includes sketching, designing costumes, and determining character movements and expressions.
4. Animation production: Animation is created using techniques such as traditional animation, computer animation, or a mixture of both. This process involves creating frame-by-frame animation, adding visual effects, and editing the final animation.
5. Editing and editing: Once the animation is finished, it is edited and edited to ensure that it meets quality and consistency standards. This includes editing the animation to ensure that it flows smoothly and that all visual elements are aligned.
6. Dissemination and distribution: Once the animation is finished, it is distributed to the target audience through various channels, such as television, film, or online platforms.

   Overall, creating media animation is a complex process and requires a lot of skills and expertise in various fields, including art, design, and technology.

- **Advantages and Disadvantages of Animation Media**

According to Apriansyah Ridwan Muhammad (2020), animation is the shifting of an object's or image's appearance to allow it to shift positions in a

predetermined amount of time (timeline) so that it can create the illusion of moving images.

There are several advantages and disadvantages of animation media, depending on the perspective of the experts. The following benefits and drawbacks are commonly acknowledged by professionals:

Advantages

1) 1Storytelling ability: Compared to other types of media, animation can tell tales and convey ideas in a way that is more captivating and captivating.
2) Emotional expression potential: Compared to other kinds of media, animation has a more delicate and nuanced emotional expression potential. media.
3) Ability to attract a wider audience: Animation media can attract a wider audience because it can attract the attention of people from various backgrounds and ages.
4) Ability to create a rich and imaginative world: Animation media can create a rich and imaginative world that can bring the audience into the story and make them feel more involved.
5) Ability to create stunning visual effects: Animation media can create stunning visual effects that are impossible to achieve with other forms of media.

Disadvantages

1. High cost: Animation media can be an expensive process, especially for animated films and TV animation, because it requires a lot of labor and resources.
2. Long production time: Animation media can take a long time to produce, especially for animated films and TV animation, because it requires a lot of labor and resources.
3. Potential for lack of realism: Animation media can be less realistic than other forms of media, especially if the animation is made in an inaccurate or inconsistent manner.
4. Potential for lack of audience engagement: Animation media can be less engaging for the audience if the animation is inconsistent or not visually appealing.
5. Potential for lack of emotional engagement: Animation media can be less engaging for the audience if the animation does not express emotions and feelings in a subtle and nuanced way.

Overall, animation media has many benefits and drawbacks, based on the opinions of specialists.

METHODOLOGY

This kind of research is known as library research, and it involves studying various library resources (books, encyclopedias, scientific journals, newspapers, magazines, and documents) in order to learn more about the research object. It might also involve researching data collection techniques in libraries. According to Nana Syaodih (2009). Literary Research, often known as a literature review, is any study that uses a theoretically oriented technique to investigate or critically assess information, concepts, or discoveries found in the literature with regard to a specific issue. As stated by Mohammad Imam Faris Cooper and Taylor (2010). Finding different theories, concepts, or ideas that are applied to examine and resolve the developed research questions is the main goal of library research. The type of study that was conducted. This study uses a qualitative method known as descriptive analysis, which entails regularly analyzing the collected data and then explaining it to the reader in a way that makes sense (Syaodin 2009).

RESULTS AND DISCUSSION

Research carried out in class III of SD Negeri 091635 Kerasaan. SD Negeri 091635 Kerasaan class IIIB was the one selected as the sample. Students in class IIIB were split into two groups for this study: the experimental group, which was working on activities to learn how to teach using animated movies, and the control group. andcontrol group. When studying the animation of Nousing videos is a process activity. A test will be given to the second group following process study instruction. Presentation of data from study findings employing testing and documentation in the form of essays as data gathering tools yields the following outcomes:

- Data on the outcomes of science education using animated videos (group experiment) are represented by data with variable X.
- The science learning result data that is not utilized in animated movies (group control) is represented by the variable Y.

Analysis Data

Using the SPSS version 22.0 application, the learning outcomes data for both groups will be processed and analyzed in a mean calculation table, followed by an independent sample t-test to determine whether the use of animated videos will affect the science learning outcomes of class III.2 students at SD Negeri 091635 Kerasaan. as follows:

Mean:

Table 1. Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error mean
Results study	Experiment	12	59.4513	8.358901	47903
	Control	12	29.2452	5.896753	10367

The group average value control is lower than the average experimental value, as can be shown from the results of the calculation on groups statistics. (59.4513>29.2452)

So, we can see there are differences and have the influence by using the technique used

Test Q(T-Test)

Table 2. Independent Samples T-Test

	Levene's Test for Equality of Varience s	t-test for Equality Means								
		F	Sig.	t	df	Sig. (2.tailed)	Mean Differences	Std. Error Differences	95% Confidences Interval of Difference	
									Lower	Upper
Hasil belajar	Equivalances assumed	,055	,578	3,553	28	,022	8,57892	4,56782	3,62778	17,68779
	Equal Variances not assumed			3,553	25,171	,022	8,57892	4,56782	3,62778	17,68779

The independent sample t-test findings show that the 2 tailed significance value is larger than 0.22 (Sig-2 tailed 3,553>0.05), which leads us to the conclusion that there has been a significant improvement in learning outcomes with value Q. And as we can see, 3,553 was the outcome.

Discussion Results Study

The purpose of this study was to determine how animation media affected the learning outcomes of a single science session for third-grade students at SD Negeri 091635 Kerasaan. This study was conducted using a sample of 22 pupils at SD Negeri 091635 Kerasaan. The number of odd absences for the group experiment and the number of even attendances for the group control are used to divide the participants into experimental and control groups. We can observe that there are variations in the outcomes based on the values this study produced. study can be shown when the learning process giving animation media than no giving animation media. Learning processes in the classroom are superior to those who follow the regular learning procedure. Comparing test scores for students who have participated in end-of-process learning reveals learning effects.

When compared to the group control, which did not employ animated movies during the learning process, the experimental group that used them received higher marks. The data analysis results demonstrate this, with the experimental group's average value (Mx = 59.4513) higher than that of the control group (My = 29.2452). This number indicates that the Mx value (59.4513>29.2452) is higher than the My value, and the Independent Sample T-test produced Sig-2 tailed 3, 553> from Sig-2 tailed 055 in the test. Considering the outcome As

mentioned above, there is a "accepted" impact of animated video consumption on science learning outcomes for students at SD Negeri 091635 Kerasaan. The hypothesis that there is no effect of using animated movies on scientific students' learning outcomes is "rejected" as a result of this acceptance.

Therefore, it can be said that using animated movies in process learning can have a favorable impact. When compared to learning outcomes for students who do not employ videos animation in process studies, this approach to teaching animation on student learning outcomes is highly satisfactory. This study is consistent with that conducted by Sinta, Ramanata Disurya, and Imelda Ratih Ayu (2022) under the title The Effect of Animation Media on the Learning Outcomes of Grade 3 Students in Elementary School Students, where the t count was as high as 4,56782 based on the results of the t test calculation using SPSS Version 23. This produced a t table with a df=62 showing a maximum size of 3,553.

From these findings, it is apparent that count > t table (4,56782> 3,553), and the alternative hypothesis (Ha) is accepted at a significance level of 055. This results in the rejection of the null hypothesis (Ho).

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

This paper shows that animation media has a positive influence impact the science-related learning outcomes of students. Using animation to explain complex scientific ideas can make them easier to understand and more engaging. Animation can boost student enthusiasm and involvement in the learning process by visualizing structures and processes that are challenging to describe using text or still images alone.

Recommendations

Integration of Animation Media: Schools and teachers are advised to integrate animation media consistently into science lesson plans. The use of animation must be adjusted to learning objectives and student needs.

Content Development: Animation content developers need to ensure that the material presented is accurate, relevant, and in accordance with the applicable curriculum. Animation should be designed to simplify scientific concepts without reducing the depth of the material.

Teacher Training: Teachers need to be trained in the use of animation media so that they can use it effectively in learning. This training can include how to integrate animation into teaching and strategies for assessing student understanding.

Evaluation and Further Research: Further research is needed to evaluate the long-term impact of animation media on learning outcomes and to identify best practices in its use in various learning contexts.

With proper implementation, animation media can be an effective tool in improving student learning outcomes and providing a more enjoyable and rewarding learning experience.

FURTHER STUDY

Every research is subject to limitations; thus, you can explain them here and briefly provide suggestions to further investigations.

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REFERENCES

Afridzal, A., Bina, S., & Getsempena, B. (2018).Differences in Learning Results Using Image and Animation Video Media in Description Essay MaterialInClass IIIState Elementary School28Banda Aceh. Tunas Bangsa Journal, 5 (2), 231.

Andriani, M., & Ginting, B. (2022). Improving Learning Achievement by Using Videos on YouTube in Thematic Learning in Class VI Elementary School 040542 Like . 1 , 87–93. https://doi.org/10.34007/ppd.v1i1.175

Apriansyah, MR (2020). Development of Animation-Based Video Learning Media for Building Materials Science Courses inthe Engineering Education Study ProgramBuildingUniversity Faculty of Engineering CountryJakarta. Pencil Journal , 9 (1), 9–18. https://doi.org/10.21009/jpensil.v9i1.12905

Arham,m(2020).EffectivenessUseYouTubeAsMediaLearning. Academic Education , 1–13. https://d1wqtxts1xzle7.cloudfront.net/63960854/Artikel_Mutmainnah_Arha m20200719-31533-e13121-libre.pdf?1595148564=&response-content disposition=inline%3B+filename%3Defektivity_Usage_Youtube_Seb agai_M.pdf&Exp ires=1672821443&Signature=TJdqoGrmPVoyT~VW

Aslan, A., & Shiong, P. K. (2023). Learning in the Digital Age Full of Hedonistic Cultural Values Among Elementary School Students. Bulletin of Pedagogical Research, 3(2), 94. https://doi.org/10.51278/bpr.v3i2.515Astuti, S. E. P., Aslan, A., & Parni, P. (2023). OPTIMALISASI PERAN GURU DALAM PROSES PEMBELAJARAN KURIKULUM 2013 DI MADRASAH IBTIDAIYAH

De Porter, Bobbi dan Hernacki, Mike. 1992. Quantum Learning. Membiasakan Belajar Nyaman dan Menyenangkan. Terjemahan oleh Alwiyah Abdurrahman. Bandung: Penerbit Kaifa.

Fauziddin. 2014. Pembelajaran PAUD Bermain Cerita Menyanyi Secara Islami. Bandung. PT. Remaja Rosda Karya.

Hayati, S., Aini, I., & Guntara, Y. (2020). Analysis of the perceptions of physics teachers and prospective teachers regarding learning resources, learning media and teaching materials. Seminar Proceedings National Physics Education , 3 (1),295.

Hayati, TUF (2020). Media Analysis of Learning Videos Using the Canva Application in Learning Figures in Elementary Schools. Proceedings of the 2022 UNIBA MIPA National Seminar, 8–15.https://jurnal.untirta.ac.id/index.php/sendikfi/index

INFLUENCE VIDEOS AIMATION TO R ESULTS STUDY COGNITIVE INTRODUCTION. The learning process is an interaction carried out by students which is useful for achieving success in somethingmatterthestudentwill helpbythe educatorrole as . VI (November),161–169.

Khalik,S., Zain, S.,M., U., Ecca, S.,Buhari, B.,Nadirah,N., Amalia, A., Nafisah, A., & Suhendra, S. (2021). Assistance in Making Animation Videos for Teachers in MBS Rappang. MALLOMO: Journal of Community Services ,2 (1), 17

Kusumahwardani, D., Pramadi, A., & Maspupah, M. (2022). Improving Student Learning Outcomes Using Animation Videos Audio visual Animaker Based On Material System Motion Man.Journal Education FKIP UNMA ,8 (1),110–

Latif, A. (2016). Environmental influence sschools on the learning outcomes of citizenship education for students at SMK Negeri Paku, Binuang District, Regencypolewali....Pepatudzu:MediaEducationAndSocial... ,7 (1),13–26.https://journal.lppmunasman.ac.id/index.php/pepatudzu/article/view/11

Lidia,W.,Hairunisya,N.,&Sujai,I.S.(2018). Ayuni.Pdf .3 (2),81–87.

Lolang, Mr. (2014).) namely the hypothesis to be tested. Usually, this hypothesis is a statement that shows that a population has parametersmarkcertain. Kip's Journal ,3 (3), 685–696.

Melyza, A., & Aguss, R.M. (2021). Students' Perceptions of the Process of Implementing Physical Education, Sports and Health Learning During the Covid-19 Pandemic. Journal Of Physical Education, 2 (1), 8–16. https://doi.org/10.33365/joupe.v2i1.950

Sujimat, D. Agus. 2000. Penulisan karya ilmiah. Makalah disampaikan pada pelatihan penelitian bagi guru SLTP Negeri di Kabupaten Sidoarjo tanggal 19 Oktober 2000 (Tidak diterbitkan). MKKS SLTP Negeri Kabupaten Sidoarjo

Suparno. 2000. Langkah-langkah Penulisan Artikel Ilmiah dalam Saukah, Ali dan Waseso, M.G. 2000. Menulis Artikel untuk Jurnal Ilmiah. Malang: UM Press.

UNESA. 2000. Pedoman Penulisan Artikel Jurnal, Surabaya: Lembaga Penelitian Universitas Negeri Surabaya.