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Systematic Literature Review (SLR): Animation Video-Based Media in Science Learning at Elementary School

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ABSTRACT

Animated video is a combination of moving audio-visual media. Audio visual media rely on the senses of hearing and sight. This study aims to conduct a literature review related to the influence of video-animation-based media on science learning in elementary schools using the SLR (Systematic Literature Review) method. The data collection technique was carried out by finding sources of articles from national journals that have similar research sourced from the Google Scholar database with the help of the Publish or Perish application. The articles used were 5 articles that were obtained and met the specified inclusion and exclusion criteria. The articles collected were only published articles from 2018 to 2023. The results showed that the use of video-animation-based media can help students improve their abilities and understand the material contained in science subjects. Students become interested and very enthusiastic about animated video-based media, easily understand science material assisted by pictures that arouse students' interest in learning. In this animated video media can overcome boredom in students during the learning process takes place.

INTRODUCTION

Natural Science (Science) is defined as knowledge obtained through collecting data through experiment, observation, and deduction to produce a reliable explanation of a phenomenon (Sovia et al., 2020). Science learning should use a better learning model and fit the characteristics of elementary school students. In addition to paying attention to the characteristics of students, teachers must also pay attention to the characteristics of the material. Through the use of contextual material, students will better understand the material. learning and applying it in everyday life. Contextual material is not enough to increase students' scientific literacy, because sometimes teachers are unable to apply appropriate learning approaches.

THEORETICAL REVIEW

Educators are required to be able to utilize learning media so that the learning process does not experience difficulties, so the development of learning media should strive to take advantage of the advantages possessed by these media and try to avoid obstacles that may arise in the learning process (Nur Jannah, 2020). By using media in learning, students will find it easier to apply and better understand the material being taught. Therefore, a teacher must be creative and innovative in making learning media that is right on target, to make it easier for students to absorb the subject matter.

Learning science requires elementary school students to have the ability to use certain tools, the ability to observe objects and their surroundings, the ability to listen, the ability to communicate effectively, respond, and solve problems effectively (Aprilia, 2021). Therefore, it is necessary to instill the ability to think critically in students from an early age through learning science. In addition, in learning science it is necessary in students' daily lives to meet human needs through solving identifiable problems. The application of science needs to be done wisely so as not to hurt the environment so that science learning material must be contextually based on students' lives.

Learning media are various types of components in the student environment that can stimulate students to learn even though they are channeling messages and can stimulate thoughts, stimulate student will so that they can encourage the teaching and learning process (Diamar et al., 2019). Media is not only a means of creation that is only made by humans but is also a means of communicating specific knowledge and skills, in addition to developing new knowledge, skills and techniques (Mayasari et al., 2021). The use of media in the teaching and learning process that is appropriate will help the effectiveness of the delivery of teaching materials carried out by the teacher.

Students who learn through learning media are more enthusiastic about their learning outcomes compared to students who are taught through conventional media (Komara et al., 2022).

Animated video is a combination of moving audio-visual media. Audio-visual media rely on the senses of hearing and sight. Elementary school (SD) children generally learn 50% of what is heard and seen (Hapsari & Zulherman, 2021). So that students better understand a lesson from what is seen and heard. Natural Science is one of learning that is difficult to understand. Science subjects have many unique concepts that can cause students to misinterpret (Dewi & Handayani, 2021). To provide students with an understanding that the information they obtain can be used in their real lives, science content must be more connected to students' daily lives and local culture. When video media is used in education, students will be able to easily understand the material and the teacher will help convey the material (Semara & Agung, 2021). In addition, the learning environment will not become repetitive. Therefore, if science content is presented in the form of animated videos it can inspire students to keep learning.

In animated videos, learning material is conveyed through unique representations to avoid inappropriate verbalization in the learning process. The use of animated media in education helps to keep students' attention and facilitates faster understanding. According to (Sukarini & Manuaba, 2021) in the field of education, animated videos have the advantage of being able to convey complex concepts visually and dynamically, easily attract students' attention, increase motivation, and stimulate students' thinking to make it more memorable. Animation can also assist in providing virtual learning.

According to research conducted by (Sunami & Aslam, 2021), the result was that, before fifth-grade students used media, the grades VA and VB students scored quite low and students were less interested in learning science subjects. The use of animated video media for learning greatly influences student learning interest, those who pay attention to videos and are active in class then affect the science scores of VA and VB class students at SDN Kalisari 01, so that they have a good impact on increasing interest and producing satisfactory grades and achieve learning goals. According to research conducted by (Sukarini & Manuaba, 2021), the results showed that the animated video developed was in a very good category. It can be concluded that the animated video developed is suitable for use in elementary school science learning. It is recommended for teachers to use animated videos in the learning process to make it easier for students to learn, especially in science lessons so that it has an impact on increasing student learning outcomes.

According to research conducted by (Isti et al., 2022) obtained the results that the development of the animated video "Properties of Light and Their Relation to the Sense of Sight", can be concluded a) Validity Results, Animated Video Media Animated video learning media shows the validity level carried out by the validator is 86.5% with a very feasible category. This can show that animated video learning media is appropriate for use in learning media in elementary schools. b) Effectiveness. The developed animated video media shows effective evidence. Based on the results of the calculation of the average pre-test and post-test scores at SDN Balung Lor 03 Jember, it has increased by 25.39%. The same thing happened at SDN Kepatihan 07 Jember which experienced an increase of 29.75%. The successful application of the developed media obtained post-test results with a percentage of 84.61% in Balung Lor 03 SDN Jember and 80.76% in Kepatihan 07 Jember Elementary School.

METHODOLOGY

Researchers conducted a literature review using the Systematic Review (SR) methodology or more commonly called the Systematic Literature Review (SLR). Systematic Literature Review (SLR) is a method for collecting, critically analyzing, integrating, and compiling findings from various research studies on relevant research questions or topics. Finding articles that are relevant to the research subject is the first step in the research process.

SLR (Systematic Literature Review) is a particular type of research or research and development methodology that is conducted to collect and evaluate related research on a particular focus topic (Triandini et al., 2019). SLR research is carried out to find evaluate, and interpret any relevant research results related to certain issues, phenomena, or research questions. In line with research conducted by (Sutanto et al., 2021), the Systematic Literature Review (SLR) research aims to identify, evaluate, and examine research that is relevant and interesting in certain fields to support further research development. In addition, the purpose of this research is to find theories that are relevant to the case in this study, which investigates animated video-based media in science learning in elementary schools.

To discuss the research topic, the researcher identifies, refers and evaluates all relevant articles. The data source comes from electronic data published online with the E-ISSN code derived from indexed journal documents and accompanied by ISSN (International Standard Serial Number) data. Google Scholar is used to collect data (Latifah & Ritonga, 2020). The data population in this study is a journal that focuses on animated video-based media in learning natural sciences in elementary schools.

In addition, the researcher will select 5 articles related to the topic under study from various articles. The next step is to group journal articles that discuss the effectiveness of using other media in the learning process as well as those that focus on using video-based media. The researcher then conducted a comprehensive review of the article, paying special attention to the findings presented in the discussion and conclusions section (Sartika & Octafianti, 2019). The following stages in the Systematic Literature Review (SLR) method can be described using a flowchart adapted from the research as follows:

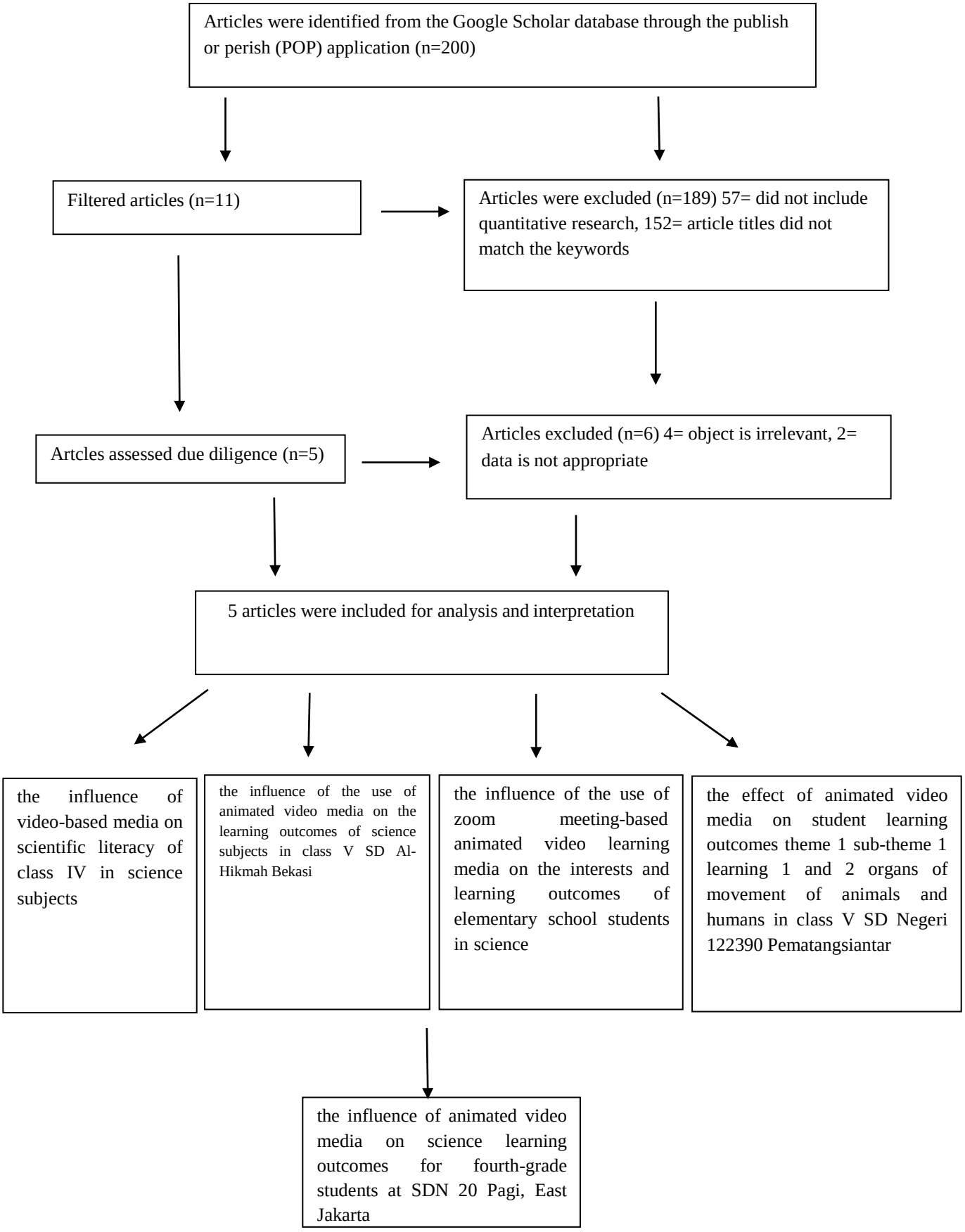

Table 1.Article Writing Process Flowchart

RESULTS

Media must be able to support learning activities that help students achieve the desired level of competence. The use of animated video-based media during learning must be able to work with students in achieving learning objectives. In this situation, it appears that the animated video-based medium used is very useful in enhancing a robust experience. This is because animated video is a medium that has two senses, namely sight and hearing. After all, what can be seen by the eyes and heard by the ears is faster and easier to remember than what can be read by the eyes or heard by the ears. Based on the findings and analysis conducted by the researchers, there are 5 articles related to research on Video Animation Based Media in Learning Science in Elementary Schools. The data contained in the table is the result of the analysis and summary of the documented articles.

Table 1. Research Results on the Effect of Video Learning Media in Elementary Schools

Researcher	Tittle	Research result
Nur Aini, Rizki Zuliani, Candra Puspita Rini.(Aini et al., 2021)	The Influence of Animated Video Media on Science Learning Outcomes of Grade IV Students at SDN 20 Pagi, East Jakarta	For students who use animated video media compared to PowerPoint media and it can also be concluded that learning outcomes for students who are given learning media through animated video media achieve increase.
Dina Pratama, Widdy Sukma Nugraha, Ejen Jenal Mutaqin. (Pratama et al., 2023)	The Effect of Video Animation-Based Media on Science Literacy of Grade IV Students in Science Subjects (Quasi-Experimental Study of Grade IV Students at SDN 1 Panembong)	Based on the results of the study it can be concluded that video-based media animation has an effect on students' scientific literacy, then animated video-based media quite effective to use compared to simple PowerPoint media. This is also supported by the difference in

		the average post-test scores for the experimental class and the control class.
Mayang Ayu Sunami, Aslam.(Sunami & Aslam, 2021)	The Effect of Using Zoom Meeting-Based Animated Video Learning Media on Interest and Science Learning Outcomes of Elementary School Students	The effect of instructional video media on the interest and learning outcomes of science students in grade VI SD shows that there is a difference in influence where the animated video media is more influential than the media that the teacher usually uses so that students receive learning material more quickly.
Wafiq Azizah, Erwin. (Azizah & Erwin, 2021)	The Effect of Using Video Animation Media on Learning Outcomes of Class V Science Subjects at SDIT Al-Hikmah Bekasi	Based on research results and calculations using SPSS and Excel what has been done states that the use of animated video media on learning science class V at SDIT Al-Hikmah Bekasi has a moderate effect on learning outcomes. It can be said that there is also an increase in learning outcomes gradually after carrying out learning using video learning media animation.
Mayang Novianti Melodi Sivra Panjaitan, Suprapto Manurung, Rio Parsaoran Napitupulu, Yanti Arasi	The Effect of Animated Video Media on Student Learning Outcomes in Theme 1 Sub-theme 1 Learning 1 and 2 Organs of Animal and Human Movement in Class V SD Negeri 122390 Pematangsiantar	Based on the results of this study, it can be concluded that there is an influence of animated video media on the learning outcomes of Class V students at SD NEGERI 122390 Jl. Laguboti Ujung Pematangsiantar. These

Sidabutar. (Novianti et al., 2021)		results are supported by facts

The model applied in learning animated videos

Based on the 5 articles analyzed, there are various models used in the use of animation media as learning media in elementary schools. The following table shows the results of the model analysis applied to the use of animated video media.

Table 1. Models used in Animation Video Media

Author	**Applied models**
Nur Aini, Rizki Zuliani, Candra Puspita Rini (Aini et al., 2021)	Animation Videos
Dina Pratama, Widdy Sukma Nugraha, Ejen Jenal Mutaqin (Pratama et al., 2023)	Animation Videos
Mayang Ayu Sunami, Aslam (Sunami & & Aslam, 2021)	Animated Video Based on Zoom Meeting
Wafiq Azizah, Erwin (Azizah & Erwin, 2023)	Animation Videos
Mayang Novianti Melodi Sivra Panjaitan, Suprapto Manurung, Rio Parsaoran Napitupulu,Yanti Arasi Sidabuta (Novianti et al., 2021)	Animation Videos

The Effect of Using Animated Videos on Science Learning in Elementary Schools

Based on the 5 articles analyzed, there is an effect of using animated videos in science learning in elementary schools. The following table analyzes the effect of using animated videos.

Table 2. Effects of Using Video Animation Media

Author	Influence
Nur Aini, Rizki Zuliani, Candra Puspita Rini. (Aini et al., 2021)	In this study there is the influence of Animation Interactive Media on Student Learning Outcomes in Theme 1 Sub-theme 2 class V UPTD SD Negeri 122353 Pematang Siantar, this is evidenced by the results of the Posttest the average value of the experimental class and control class, namely in the experimental class 83.57 the average - the highest average, while in the control class, it was 71.50 as much as the highest average. By looking at the average results of the two classes, the posttest average score of student learning outcomes in the experimental class is higher than the average posttest results. control class.
Dina Pratama, Widdy Sukma Nugraha, Ejen Jenal Mutaqin. (Pratama et al., 2023)	The average posttest score for the experimental class was 85.56, while for the control class, the average value was 70.50. Therefore there is an increase in students' scientific literacy scores after being given treatment (treatment). So in this case, animated video-based media influences literacy science students in science learning material The relationship of force and motion in life daily.
Mayang Ayu Sunami, Aslam. (Sunmi & Aslam, 2021)	The use of animated video media for learning greatly influences student learning interest, those who pay attention to videos and are active in class then affect the science scores of VA and VB class students at SDN Kalisari 01,

Author	Influence
	so that they have a good impact on increasing interest and producing satisfactory grades And achieve learning goals.
Wafiq Azizah, Erwin. (Azizah & Erwin, 2023)	Based on the results of research and calculations using SPSS and Excel that have been carried out, it is stated that the use of animated video media in learning science class V at SDIT Al-Hikmah Bekasi has a moderate effect on learning outcomes. It can also be said that there is an increase in learning outcomes gradually after carrying out learning using animated video learning media.
Mayang Novianti Melodi Sivra Panjaitan, Suprapto Manurung, Rio Parsaoran Napitupulu,Yanti Arasi Sidabuta. (Novianti et al., 2021)	Based on the results of this study it can be concluded that there is an influence of animated video media on the learning outcomes of Class V SD NEGERI 122390 Jl. Laguboti Ujung Pematangsiantar. This result is supported by the fact that the average (mean) of the posttest is greater than the average (mean) of the pretest (68.33 > 50.67). And from the hypothesis test, the value of count > table is 24.813 > 1.69913. Because the value of count > table, HO is rejected and Ha is accepted.

The results of the research show that video-animation-based media is a type of learning media that is carried out in science subjects which allows students to improve their ability to understand the material contained in science subjects. Students become interested and very enthusiastic about this video-animation-based media because they can easily understand science material assisted by pictures that arouse students' interest in learning. In addition, this animated video media can overcome boredom in students during the learning process.

This is supported by the opinion (Dewi & Handayani, 2021) that video learning media is a type of learning media that can be utilized. The most useful form of learning media, namely animated videos, can offer different experiences to students. Students are more likely to understand the information presented by animated video media, which helps in the learning process and attracts them to the content. This makes it easier for the teacher to convey what needs to be learned. Video content is very important for teachers to use in the online learning process, especially in this pandemic environment. The use of learning media is expected to make it easier for educators to deliver material and master the material.

DISCUSSION

Regarding whether animated video-based media influences science subjects or not. from the results of the research put forward by (Pratama et al., 2023) it can be seen that the initial average before using video-animation-based media was in the experimental class 45.39 while in the control class, it was 43.64. Then after using animated video-based media, the average increase was in the experimental class 85.56 and the control class 70.50. Likewise in 4 other studies, the researchers found in the table that there was a significant average increase in the use of this video-animation-based media in science subjects. Thus, it means that there is an influence of animated video-based media on science subjects in elementary schools.

The type of learning model applied to animated video media varies from one study to another. This is because there are many types of animated video media models. Examples of animated video media models, such as moving PPT, stretch models, studio animation, Kinemaster, Animaker, etc. by the analysis that the researchers conducted on the 5 articles, it can be seen if the video animation model taken is the same, namely in the form of moving pictures which are then edited into an animated video that is used as teaching material.

The application of animated video media researchers found in research by (Novianti et al., 2021) that the application of animated video media was carried out in science subjects on student learning outcomes on animal and human organ movement material in class V. Another finding was in research by (Azizah & Erwin, 2022) that the application of animated video media can be carried out in class IV science literacy science subjects. Likewise, the application of the other three studies is the same as research by (Novianti et al., 2021), which is the same for the learning outcomes of elementary school students. Thus it can be seen from the research results that the use of animated video-based media can be applied to several things, including the findings of researchers, namely learning outcomes and scientific literacy.

CONCLUSIONS

From this study, it can be concluded that the effect of the use of animated video-based media on science learning in elementary schools adapted to learning models and methods such as moving audio-visual, Systematic Review (SR) methodology or more commonly called Systematic Literature Review (SLR) has an influence significant (good effect) on student learning outcomes. Using models or methods in collaboration with animated videos on Science Learning in Elementary Schools can help students improve their abilities and understand the material contained in Science subjects. Students become

interested and very enthusiastic about animated video-based media and easily understand science material assisted by pictures that arouse students' interest in learning. In this animated video media can overcome boredom in students during the learning process takes place.

FURTHER STUDY

This research still has limitations so that research still needs to be done on the following titles "Systematic Literature Review (SLR): Animation Video-Based Media in Science Learning at Elementary School."

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