



The Role and Urgency of Animation Media In The Development of Students' Cognitive Domain

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Abstract: The rapid development of technology has changed the goals of implementing the learning process. This research aims to determine the impact of animation media on students' cognitive learning outcomes in science learning. This type of research is descriptive qualitative. The population in the study was 16 students in class V of SD 113 Jambi City. The sample in this study used a total sampling technique, namely all Class V students totaling 16 students. The data collection technique uses test questions, then the test results will be analyzed by researchers to find out how much influence the students' cognitive domain has on the results of using animation media on student learning outcomes in science learning. The research results showed that the impact on students' cognitive domain was good at 62.5%, moderate at 31.25%, and 6.25% in the low category. The data obtained indicates that there is a good influence on learning outcomes in the cognitive domain of students.

INTRODUCTION

The development of education is experiencing very rapid development, so that the learning process has to change from old theories to new theoretical learning styles, one of which uses technology. Technology in the learning process now has to make the learning process have to make changes (Darling-Hammond *et al.*, 2020; Singer *et al.*, 2012). Researchers believe that due to a lack of ability to use technology, it is difficult for learning to develop better. Utilizing technology such as animation media can improve students' learning abilities and interest better (Abdillah, 2017; Brears *et al.*, 2011). Students will be more enthusiastic in studying the understanding or material provided, which will automatically lead to increased student knowledge. The role of the teacher is very important to make changes in learning if you want truly quality learning. while being able to develop in various situations of global world change (Ceberio *et al.*, 2016; Hwang *et al.*, 2007; Steel *et al.*, 2010).

The changes in the way of looking at education above should be in line with real conditions in the field, but it is very unfortunate that the information obtained during initial observations contains many factors that influence the low student learning outcomes which reach 60% in science subjects, especially during practicums where laboratories are limited.

because the technology used is very poor. In the learning process, it also appears that there is still a lack of use of technology and it seems that it is not being used enough when science learning is taking place, so technology should be used so that learning becomes more interesting (Boulianne & Theocharis, 2020; Lewis *et al.*, 2010; Sastradika *et al.*, 2021). Learning activities are still dominated by teachers, students do not dare to ask questions or express opinions, and the methods or media used tend not to vary (monotonous), especially in science learning, the media used by teachers only uses pictures and only focuses on theme books.

Understanding modern learning patterns or changes in technology-based learning processes requires every teacher to change the form of learning from classical to modern by making full use of technology (Grace *et al.*, 2014; Squire, 2012). Technology that can be utilized is to use media that is as interesting as possible so that students are motivated to participate in learning. One option that can be used is to use animation media in the form of video. This animation media really attracts students' attention because it has unique sounds and images (Dajani & Abu Hagleh, 2019; Fralinger & Owens, 2009; Sanchez & Weber, 2019). By using this animation media, students can watch, observe and recite the material delivered directly by the teacher. Animation is a film that comes from images that are processed in such a way that they become moving images that are able to provide or increase students' interest in learning to become better and more enthusiastic in learning.

Understanding animation media can encourage increased student capacity in the science learning process. Several research results have shown the fact that increasing student interest really provides encouragement, especially for students, to focus more on learning outcomes that students can enjoy. Science learning is learning that is closely related to natural phenomena that can be explained and argued in real life (Sanchez & Weber, 2019; Sukiyasa & Sukoco, 2013; Sulman *et al.*, 2021). so it should be explained with an animated video so that it is presented more interestingly and is able to encourage children to focus on learning. If the child's focus and interest results from learning abilities, animation media becomes more useful so that it can improve the student's cognitive realm. If all processes are carried out correctly, maximizing the process of student attention or enthusiasm so that student learning outcomes will improve to be better and more effective.

METHOD

In this study, researchers tried to analyze students' cognitive domain in science learning after using a learning process assisted by animation media. This type of research is qualitative research with the method used using a qualitative descriptive method, where all data from measurement tests will be analyzed further to produce more complete data, and in this case the influence of animation media (Lodico, 2010; Njie & Asimiran, 2014). This research process was carried out at SDN 113 Jambi City which researchers carried out in the odd semester of the 2023/2024 academic year, to be precise in November 2023 until completion. The population in this study were students in class V of SD Negeri 113 Jambi City in the science field, totaling 16 people. The sample in this study used a total sampling technique, namely the entire population that was the direct subject of the research, namely 16 students. The total sampling technique that researchers use in this

research is because the population is small, so researchers can use all research subjects to obtain data that is currently happening, and the advantage of data using this technique will be more representative in presenting data or research findings in this case is the influence animation media on student learning outcomes in the cognitive domain.

In summarizing the data in this study, the researcher used an essay test consisting of 5 questions. This was done so that the cognitive understanding measured was not based on guessing answers such as multiple choice questions which usually become an obstacle or weakness. Researchers consider understanding essay questions or descriptions more effective in measuring students' knowledge, especially in the cognitive domain. The data analysis technique is to describe student answer scores which are divided into 3 parts, namely high, medium and low. The division of these 3 indicators is to clearly separate the conditions for students' mastery of concepts in the cognitive domain in a more concrete and real way after being exposed to animation media in the learning process and in this case science learning for elementary school children. The researchers' indicators for determining high, medium and low learning outcomes can be seen in table 1.

Table 1. Indicators of student learning outcomes after being given animation media

No	Scores	Catagores
1	80-100	Good
2	61-79	Moderat
3	≤60	Low

The indicators in table 1 above serve as a reference for researchers to place the position of cognitive domain achievement categories that have been achieved by students in science learning material after being taught using animation media. All data will be analyzed in real time from the students' final test scores and there will be no additional assessments, so this data is intended to maintain the credibility of the data in accordance with the facts or findings obtained in the field.

RESULT AND DISCUSSION

In the research that has been carried out, researchers found some interesting data that shows the quality of the impact that occurs after teachers apply animation media in their learning process, which in this case is science learning. Basically, researchers only observed an increase in one subject, namely science learning, because researchers think this learning is the easiest subject to animate, and also the easiest to analyze. The research data obtained shows an improvement in the animation media provided which can be seen in table 1.

Table 1. Student learning outcomes after being given animation media

No	Student Score	The Number of students	Percentage
1	100	10	62,5%
2	75	5	31,25%
3	60	1	6,25%

From table 1 above, it clearly shows that animation media has a significant impact on the development of children's knowledge, especially in the cognitive domain. This can be seen from the data that researchers present above, where around 62.5% of students are in the high learning outcomes category, then around 31.25% of students have a fairly good or moderate impact, and only 6.25% have a good impact. This research also carried out observations which produced data that on average children's focus was better than before, when the learning process had not used animation media, while after using animation media, children became stronger in their analysis and enthusiasm for learning (Dajani & Abu Hegleh, 2019; Sanchez & Weber, 2019). Indications of children's interest and enthusiasm in learning actually give the impression that animation media is actually effective in improving student learning for the better, especially science learning which is closely related to the environment and real life (Rahim et al., 2020; Sukiyasa & Sukoco, 2013).

Analysis of the Impact of Animation Media on Students' Cognitive Abilities

Cognitive ability is one domain, of the 3 domains that determine students' abilities. The cognitive domain is usually measured using the revised version of Bloom's or Andersen's taxonomy, all of which measure various abilities, one of which is thinking and analyzing a problem in the form of a question, and then the resulting answer becomes an indication of the student's level of ability. Learning is said to be good if it meets 3 domains, namely cognitive, affective and psychomotor (Meiliani et al., 2021; Patall et al., 2017; Sulman, 2012). Where in the learning process these three domains must develop better and simultaneously. The development of good learning outcomes can only be achieved if students' abilities are truly able to improve to better quality (Brears et al., 2011; Cremers et al., 2014). In an effort to provide understanding to students, teachers must be able to provide not only information but strong encouragement so that students become more aggressive and have better and more professional learning quality.

In developments in the world of education, it is necessary to apply or integrate technology in the learning process, in this case animation-based media, which in research that researchers have conducted, there has been a good increase in student learning outcomes by 62.5%. This kind of impact is extraordinary in influencing student learning outcomes, where students are able to be more enthusiastic and interested in the learning process carried out, which in this research is science learning for elementary schools. Students' interest increased drastically in understanding and seeing the learning presented (Abdillah, 2017; Michalsky, 2020).

Increased interest which influences student learning outcomes, is then followed by student enthusiasm to understand the learning process better, then there is a difference in student learning outcomes, where the tendency for students to have fairly good cognitive domain knowledge is 31.25 and low ability is only 6, 25%. And on average the development of students' abilities is very high, namely 62.5%. The data that researchers have described is an indication that animation media is able to encourage students to become individuals who are more focused and interested in the learning process. Students come to feel that the material being studied is not a burden they are carrying but is

knowledge that must be possessed, so that they are able to become better and more qualified individuals (Cai et al., 2021; Sulman et al., 2022; Weaver et al., 2018). Increasing student understanding certainly has a straight line with the efforts made in the learning process. In the learning process, of course, there is not only the role of the teacher but also the role of students as people who get information or knowledge, regarding the direction in which this knowledge is carried out and how the process is carried out and what their hopes are in life or after receiving this knowledge.

The increase in student learning outcomes in this science material was also followed by the results of observations made by researchers during this research. Where in the learning process carried out all researchers have great enthusiastic abilities. In the researcher's view, enthusiasm for the material using animation media is very big in influencing students in the learning process and understanding learning better. Students want to know more about the material or information provided by the teacher in the research. Every material provided is always able to stimulate students' knowledge to become better and more useful individuals (Divanji et al., 2023; Mullet et al., 2018). In the implementation of learning, students' enthusiasm for understanding the material also increases better. Students are always encouraged to know more about the information they use so that the learning process is carried out very actively as shown by the questions and answers carried out to understand the learning more deeply (Rozal et al., 2021; Sulman et al., 2021; Zb et al., 2021). Children's curiosity about the material provided is a positive value in the learning process, because the best learning is learning that is born from the student's personal drive to understand and deepen the material being studied (Nada et al., 2022; Putra et al., 2021). The desire that comes from students will usually be rooted in the strength within them to understand learning better, so that students will not feel bored or fed up during the learning process.

The learning process that uses animation media clearly has a maximum impact in science learning at the elementary school level, especially in natural science material, especially in improving students' cognitive domain, which has experienced extraordinary improvements. This is of course additional information for various parties, that technological developments cannot be used as a point of view to be used solely for individual pleasure, but if done correctly and at the right time then technological developments can become a very effective tool for teachers in the learning process, one except animation media (Cai et al., 2021; Sukiyasa & Sukoco, 2013; van Baalen et al., 2021). Media is believed to be able to provide significant changes in learning.

The animation media in this research has provided evidence that it can improve students' cognitive domain as well as being able to support students' focus and attention further in the learning process. Animation media is not only a medium that is able to encourage students to learn, but animation media is also easy to make and obtain in this day and age, where information is in the form of technology and is already very abundant, just needs to be used and also modified according to the needs of a teacher in the learning process being carried out (Divanji et al., 2023; Liaw & Huang, 2013). The large use of technology and information in technological developments as currently perceived should be an encouragement for teachers to be able to master technology, so that in the learning

process it can be used and used as a very useful tool for teachers in the learning process. In the implementation process, both schools and the government should also provide more and more massive facilities for teachers at the elementary school level to better understand or be proficient in using technology and information, so that teachers are able to use technology-based applications in their learning process (Bansode et al., 2018; Guidance, 2014; Sari & Nayır, 2020). The positive impact of animation media, especially on elementary school children, on this science material should provide additional input and information for teachers, schools or the government, so that they can be more focused and see the learning process adapted to changing times, so that the learning process can be created, not only effective. but also a quality and enjoyable learning process.

CONCLUSION

From the research process that the researcher has carried out and from the results of observations and data analysis that have been carried out in detail and thoroughly, it can be concluded that animation media has a positive impact in changing the learning process of students, especially in the cognitive domain, namely in the good domain at 62.5% . , in the medium domain it is 31.25% and 6.25% in the low domain. The findings that have been obtained are interesting information that the learning process nowadays should be directed towards the use of technology to foster students' interest and motivation in the learning process. This certainly requires better efforts, especially teachers in this case as implementers of learning, so that technology can help teachers in preparing better and better quality animation media. In this research, the researcher suggests that other researchers use research instruments that already have standards so that the quality of the test questions can be guaranteed to be even better. And also teachers must be able to explore more with other media which are believed to be able to improve student learning outcomes not only in the cognitive domain but also in the affective and psychomotor domains.

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