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Improving Student Learning Outcomes on Integer Material by Using Audio-Visual Media in Grade IV SD Negeri 1 Kepahyang

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Abstract: This study was inspired by the author's experience as a teacher at SDN 1 Kepahyang who observed the ability of students to solve problems and their inability to distinguish between known and requested, as well as the mathematical model used in the problem, solving it, resulting in low student learning outcomes. The purpose of this study was to improve student learning outcomes on integer material by using audio-visual media in grade IV SDN 1 Kepahyang. The subjects of the study were student's class IV with a total of 20 students (Male = 10, Female = 10) for the 2020/2021 academic year. This research was conducted on April 19 to May 3, 2021, the even semester of the 2020/2021 academic year. Based on research findings, it can be seen that student learning outcomes related to integer learning material have increased. This can be seen from the results of learning evaluations in the form of learning completeness from each cycle I (70%), and cycle II (100%). So, the use of audio-visual media in learning mathematics integer material can improve the learning outcomes of grade IV (four) students at SDN 1 Kepahyang.

Keywords: Audio Visual Media, Learning Media, Learning Outcomes

A. Introduction

Learning is a change in disposition or ability involved in activities that directly comes from one's own natural growth process, resulting in changes in character or ability (Kristofora & Sujadi, 2017). Learning as a concept the idea of learning as a way of learning is widely accepted (Pratiwi et al., 2018). Students actively collect and receive information from the teacher, the teacher acts as a teacher trying to provide as much knowledge as possible. Learning is the act of changing one's behavior through practice and experience (Faizah, 2017). In schools, learners are subjects who participate in teaching and learning activities. Learners respond with learning actions after experiencing teaching actions in those activities. By and large, learners initially underestimate the importance of education. Learners understand what the content of the lesson means to them because of the teacher's knowledge of the learning objectives. Mathematics as one of the subjects in schools plays an important role because it can increase students knowledge in thinking logically, rationally, critically, carefully, effectively, and efficiently, so mathematics is considered one of

the subjects taught in schools. Therefore, learners must master mathematical concepts.

Because mathematics is a tiered subject, each subchapter will be closely related to the next subchapter. For this reason, grade IV students must really master integer material before learning additional mathematics. The real condition that is happening now related to the learning outcomes of grade IV students of SDN 1 Kepahyang about integers is not so optimal. It is proven that from 20 students there are only 45% of students who are able to do integer problem exercises. This can be seen when the learning process takes place children seem uninterested, tend to be passive, and lack enthusiasm for learning during the learning process. Although improvements have been made, they have not produced optimal results. One reason for problems like this is that teachers do not use materials and techniques appropriate to the circumstances of learners, making them look passive and unmotivated. Lectures, questions and answers, and assignments make up the majority of the learning methods used, making the teacher the main instructor. Learning requires the right tools and techniques to convey information to learners and make it easier for them to understand it.

According to Sapriyah (2019), "learning outcomes are when someone who has learned something will change his behavior, from not knowing to knowing and from not understanding to understanding". Then Yusuf Aditya (2016) stated "Learning outcomes are skills acquired by learners after their learning experience". Wasti et al. (2013) stated "Learning outcomes are the results achieved by students after completing learning achievement tests at the end of each lesson, students receive their learning results in the form of numbers or scores".

According to Nurrita (2018) Media can be used for various activities or businesses, such as heat-conducting media or magnets in engineering, for example. The term educational media comes from the use of media in education. According to Indriyani (2019) explained that students and educators alike can benefit greatly from the use of media in the teaching and learning process. Everything in the learning process, both physical and digital, that can make it easier for teachers to teach their students about a subject and help them achieve their learning goals is called learning media (Tafonao, 2018). Furthermore (Susilo, 2015) explained that tools that support the quality of the teaching and learning process are an important role played by learning media. Learning can also be made more fun and interesting through media. Audiovisual media is currently being developed as a learning medium. It can be concluded that learning media is a tool used in the teaching and learning process to encourage student learning by stimulating their thoughts, feelings, attention, and abilities or skills.

According to Azhari (2015) implicitly says that books, tape recorders, tapes, video cameras, video recorders, films, slides (photo frames), photos, pictures, graphics,

television, and computers are examples of learning media. Other tools that are physically used to convey the content of teaching materials include video cameras, video recorders, and computers. Another opinion was conveyed by Nurseto (2012) that learning media has three forms or formats, namely sound (audio) form (visual) and motion (motion). Furthermore (Sulfemi &; Mayasari, 2019) suggests that "Video is a collection of moving images and sounds arranged sequentially to tell a story. These messages are intended to help learners achieve learning objectives and are recorded on cassette or floppy disks." Video is widely used in interactive learning, and explained by (Wahyudi, 2014) that a teaching delivery system known as interactive learning media uses computers to present recorded video material to viewers (learners) who not only passively hear and see video and sound but also actively respond. The response of learners will determine the speed and order of delivery of the material. Sulfemi & Mayasari (2019) argue that simultaneously incorporating auditory (listening) and visual (seeing) media, audio-visual media types enhance learning ability. To assist learners in acquiring certain knowledge, skills, or attitudes, audio-visual media serves as an intermediary medium for the delivery of material absorbed through sight and hearing. Examples of audio-visual media include films, film frames (slides), and audio-visual in digital form (Aida et al., 2020).

The benefit of media in the learning process is that it facilitates interaction between teachers and students, which is one of the advantages of media in the learning process so that learning activities can be used more effectively (Karo & Rohani, 2018). The author tried to conduct research with the title of the circumstances surrounding the above problems entitled: "Improving student learning outcomes on integer material by using audio-visual media in Grade IV SDN 1 Kepahyang".

B. Methods

This type of research is classroom action research carried out by teachers in their own classrooms. These activities are carried out through self-reflection with the aim of improving performance as a teacher. This classroom action research is carried out to analyze the cause and effect between student learning outcomes on integer material using audio-visual media. The population is all grade IV students of SD Negeri 1 Kepahyang for the 2020/2021 academic year, with a total of 20 students. The sample was taken from a total of 20 students in the class with details of men = 10 and women = 10.

The research instrument is a written test in the form of an essay that refers to the learning implementation plan for grade IV SD Negeri 1 Kepahyang. There are 2 cycles of learning improvement with details of 5 written test questions in cycle 1 and 5 written test questions in cycle 2 with a maximum score of 100 cycles each. Data was collected through a written test in the form of an essay given to grade IV

students of SD Negeri 1 Kepahyang. The test refers to mastery of integer material with the application of audio-visual media in the learning process.

Descriptive and inferential statistical analysis was used to analyze the data in this study. The purpose of descriptive statistics is to describe or give an overview of the subject of research in its present form without making conclusions or generalizations. The purpose of inductive or inferential statistics is to draw conclusions. A presumption is made that descriptive statistics can be used to draw conclusions (Hadi et al., 2018).

C. Results and Discussion

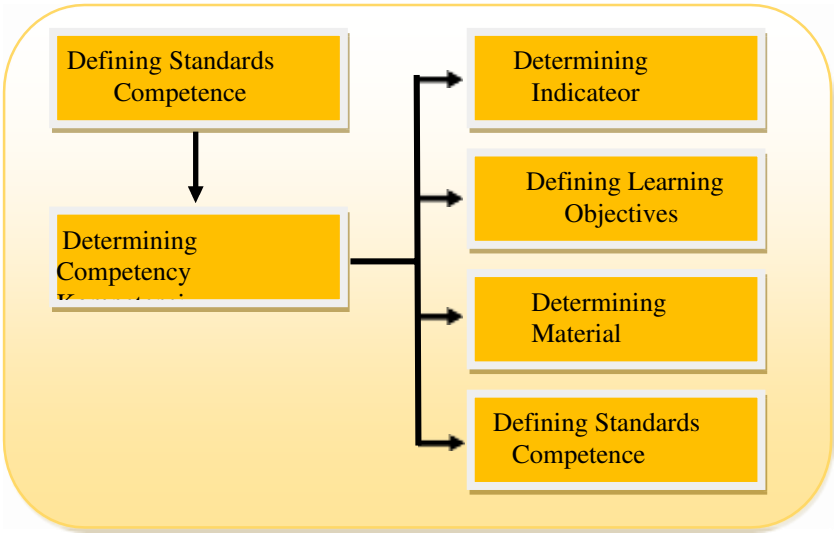
Research findings are presented gradually as learning cycles used in the teaching and learning process in the classroom. The study was conducted in three cycles, as described below.

a. First Cycle

The first cycle consists of four stages, namely planning, implementation, observation and reflection, as follows.

1. Planning

The initial stage of research is planning. For more details can be seen the picture below:



2. Implementation

At the beginning of the first cycle, the implementation was not as planned. This is due to:

a) Some students are not familiar with learning conditions by presenting information in teaching and learning activities using audio-visual media in integer learning materials.
b) Some students do not understand the learning content of audio-visual media.

To overcome the above problems, the following efforts were made.

a) Teachers create learning conditions that involve more cooperation between students by forming study groups in observing audio-visual media on integer learning materials.
b) Teachers help students who do not understand the exposure of learning materials by using audio-visual media.

At the end of the first cycle from the results of teacher observation and collaboration with supervisor 2 can be concluded:
a) Students begin to adjust learning conditions by using audio-visual media.
b) Students are able to conclude the learning material that has been observed through audio-visual media.

3. Observation

The results of cycle I observations in the form of student activities during the learning process can be seen in the following table.

Table 1. Observation Results Student Activities Cycle I

No	Student Name	Activity				
		1	**2**	**3**	**4**	**5**
1	Dimas Andriansyah	✓	✓	✓		
2	Agung Aditiya			✓	✓	
3	Akbar Pratama	✓		✓		
4	Alvina Aprilia			✓	✓	✓
5	Anggun Febrianti Regina Putri			✓	✓	
6	Ari'a	✓		✓		
7	Chelfiana Alvera Damayanti		✓	✓		
8	Dea Mustika			✓	✓	
9	Dimas Arif Permana			✓	✓	✓
10	Dina Puspita Sari			✓	✓	
11	Dion Dermawan	✓		✓		
12	Doni Firmansah		✓	✓		
13	Erik Galang Saputra		✓	✓		
14	Florencia Jeny Pratama			✓	✓	✓
15	Ilham		✓	✓		
16	Intan Sapira			✓	✓	✓
17	Jihad Desta Prayoga			✓	✓	✓
18	Kaela Sari			✓	✓	
19	Khas Nalidiyasari		✓	✓		
20	Dewi Azzahra			✓	✓	
	Sum	4	6	20	11	5
	Percent (%)	20	30	100	55	25

Information:
1 : Chat
2 : Inactive
3 : Execute commands
4 : Actively answering
5 : Actively ask questions

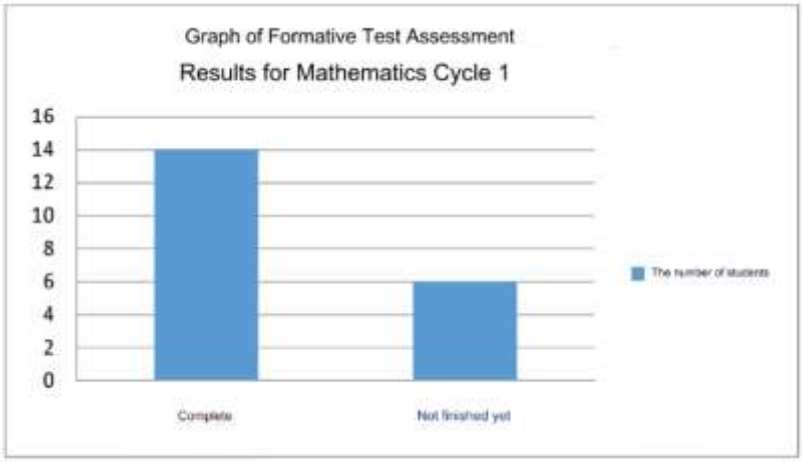
Based on data from the table above, the results of observations of student activity are still low. The activities of students who asked questions were only 5 students (25%), actively answered 11 students (55%), carried out orders of 20 students (100%), inactive 6 students (30%), and chatted there were 4 students (25%).

Table 2. Assessment Results from Learning Tests in Cycle 1

No	Student Name	Value
1	Dimas Andriansyah	50,00
2	Agung Aditiya	75,00
3	Akbar Pratama	50,00
4	Alvina Aprilia	85,00
5	Anggun Febrianti Regina Putri	75,00
6	Ari'a	55,00
7	Chelfiana Alvera Damayanti	70,00
8	Dea Mustika	80,00
9	Dimas Arif Permana	85,00
10	Dina Puspita Sari	70,00
11	Dion Dermawan	55,00
12	Doni Firmansah	55,00
13	Erik Galang Saputra	60,00
14	Florencia Jeny Pratama	90,00
15	Ilham	60,00
16	Intan Sapira	90,00
17	Jihad Desta Prayoga	90,00
18	Kaela Sari	80,00
19	Khas Nalidiyasari	55,00
20	Dewi Azzahra	80,00
	Sum	**1410**
	Average	**70,50**

Minimum Creteria of Fitness = 60

From the table above can also be seen through the graph in the graphic image below.



Based on the diagram above, it can be seen that of the 20 students who scored >60 or complete, there were 14 students (70%) and students who were incomplete or who scored <60 there were 6 students (30%). Therefore, researchers need to make improvements to cycle II learning.

4. Reflexion

As a basis for compiling and implementing learning improvements in cycle 2, cycle 1 reflection uses the advantages and disadvantages of the learning process. The shortcomings of cycle 1 learning are that when the teacher applies integer material, there are still some students who are not active in following the learning process.

Learning improvements must be carried out in cycle 2 as a result of reflection on the learning process including:

a) Conditioning the classroom so that the learning process can run conducively.
b) Provide motivation to students to be more active in learning.
c) Creating a fun learning atmosphere.

b. Second Cycle

As in the first cycle, this second cycle consists of four stages, namely planning, implementation, observation and reflection, as follows.

1. Planning

The initial stage of research is planning. The planning carried out is as follows:

a. Determining Competency Standards
b. Determining Basic Competencies
c. Determining Indicators
d. Defining Learning Objectives
e. Determining Material
f. Determining Learning Methods

2. Implementation

a. The learning atmosphere is accustomed to learning conditions using audio-visual media.
b. Almost all students are motivated towards learning by applying audio-visual media.
c. An effective and fun learning atmosphere has begun to be created.

3. Observation

The results of cycle II observations in the form of student activities during the learning process can be seen in the following table.

Table 3. Observation Results Student Activities Cycle II

No	Student Name	Activity				
		1	**2**	**3**	**4**	**5**
1	Dimas Andriansyah		✓	✓		
2	Agung Aditiya			✓	✓	✓
3	Akbar Pratama			✓		✓
4	Alvina Aprilia			✓	✓	✓
5	Anggun Febrianti Regina Putri			✓	✓	✓
6	Ari'a		✓	✓		
7	Chelfiana Alvera Damayanti			✓	✓	
8	Dea Mustika			✓	✓	✓
9	Dimas Arif Permana			✓	✓	✓
10	Dina Puspita Sari			✓	✓	✓
11	Dion Dermawan			✓	✓	
12	Doni Firmansah		✓	✓		
13	Erik Galang Saputra			✓	✓	
14	Florencia Jeny Pratama			✓	✓	✓
15	Ilham			✓	✓	
16	Intan Sapira			✓	✓	✓
17	Jihad Desta Prayoga			✓	✓	✓
18	Kaela Sari			✓	✓	✓
19	Khas Nalidiyasari		✓	✓		
20	Dewi Azzahra			✓	✓	✓
	Sum	0	4	20	15	12
	Percent (%)	0	20	100	75	60

Information:
1 : Chat
2 : Inactive
3 : Execute commands
4 : Actively answer
5 : Actively ask questions

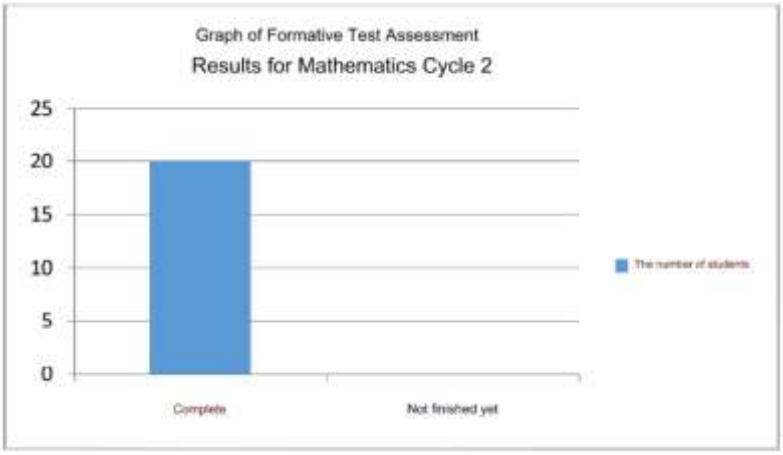
Based on the data from the table above, the results of observations of student activities in cycle 2 have shown good results. The activities of students who asked questions were 12 students (60%), actively answered 15 students (75%), carried out the commands of 20 students (100%), inactive 4 students (20%), and students chatted or did not pay attention to learning (0%).

Table 4. Assessment Results from Learning Tests in Cycle 2

No	Student Name	Value
1	Dimas Andriansyah	60,00
2	Agung Aditiya	75,00
3	Akbar Pratama	60,00
4	Alvina Aprilia	95,00
5	Anggun Febrianti Regina Putri	75,00
6	Ari'a	65,00
7	Chelfiana Alvera Damayanti	70,00
8	Dea Mustika	80,00
9	Dimas Arif Permana	90,00
10	Dina Puspita Sari	75,00
11	Dion Dermawan	70,00
12	Doni Firmansah	60,00
13	Erik Galang Saputra	70,00
14	Florencia Jeny Pratama	100,00
15	Ilham	75,00
16	Intan Sapira	95,00
17	Jihad Desta Prayoga	100,00
18	Kaela Sari	80,00
19	Khas Nalidiyasari	65,00
20	Dewi Azzahra	90,00
	Sum	**1550**
	Average	**77,50**

Minimum Creteria of Fitness = 60

From the table above can also be seen through the graph in the graphic image below.



Based on the diagram above, it can be seen that there is an increase in student learning outcomes in cycle 2 learning. In cycle 2 learning, the results achieved by students are in accordance with the expectations of researchers. Of the 20 students, all have reached KKM. Therefore, learning improvements are sufficient until cycle 2.

D. Conclusions

Based on the formulation of the problem in chapter I, it can be concluded that the learning outcomes of students when learning mathematics about "Integers" in grade IV SDN 1 Kepahyang, Lempuing District, Ogan Komering Ilir Regency can be improved through the use of audiovisual media. It is evident from the evaluation results of students who obtained scores above KKM in cycle 1 there were 14 students (70%), and cycle 2 there were 20 students (100%).

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