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Using styrofoam media to improve student learning outcomes in class IV

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ABSTRACT

The learning process carried out does not use learning media, so students only imagine the explanation given by the teacher without any media that can be observed directly by students. The aim of this research is to improve student learning outcomes. Meanwhile, the benefit of this research is to add new references regarding the use of learning media and make students happy in learning. The method used in this research is a quantitative method. The research subjects were 25 class IV students, consisting of 15 male students and 10 female students. The research results showed that there was an increase in learning outcomes with the class average reaching 85.2. In this study the subject only focused on one class, of course this does not describe the actual situation. For further research, it is recommended to take more samples to get more objective results

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INTRODUCTION

Learning is a teacher's effort to provide knowledge to students in the form of attitudes, knowledge and skills. Learning is a way to support students so they can learn well. Learning is part of the interaction process between teachers and students which can take the form of experience (Anggraini & Wulandari, 2020). Learning through a process that combines two aspects, namely learning and teaching. Learning is what students should do and teaching is what teachers should do (Ramadanti, 2020). The essence of learning is all the efforts made by educators towards the students' learning process (Junaedi, 2019).

The process of learning activities carried out deliberately by the teacher as an effort to motivate students to participate in learning (Festiawan, 2020). Learning in simple terms is an effort made to gain intelligence, knowledge, practice or change behavior or reactions resulting from experience (Zakky, 2020). Learning is a complex act of behavior, so learning can only be experienced by the students themselves (Huda, 2019). Learning is a physical activity whose results are obtained in the form of physical changes (Lismaya, 2019). At this time, teachers play a role in facilitating innovative student learning activities, one of which is by using learning media.

Learning media is divided into three parts, namely audio, visual and audio visual (Nurgiansah, 2022). Learning media is also a forum for conveying information and messages in the learning process (Zahwa & Syafi'i, 2022). Apart from that, learning media is a means that can be

used to accommodate students in understanding the subject matter (Tri Wulandari & Adam Mudinillah, 2022). Learning media is also a tool to support learning activities to make them more interesting. Learning media is media that helps stimulate students' thinking, abilities and attention during classroom teaching (Heri, 2020). In general, learning media are tools that help the learning process (Ekayani, 2020)

Current conditions, the learning process is still dominated by teachers so that students are less actively involved in learning. The learning carried out does not use learning media, so students only imagine the explanation given by the teacher without any media that students can observe directly. Apart from that, based on observations made during the learning process, it can be seen that students are busy talking with their friends and pay less attention to the explanations given by the teacher. Therefore, students are less motivated to participate in learning. This has an impact on student learning outcomes which are still far from expectations. Based on these problems, a learning media was designed using used materials, such as styrofoam, soil, plastic, cardboard, mica and also wire. One of the advantages of this media is that it uses miniature sunlight which can be turned on with the help of a battery and also uses real water. This is done so that the media designed can be understood by students clearly, so that it will have an impact on improving their learning outcomes.

Learning outcomes are a measuring tool to determine the achievement of the learning activities that have been carried out. Apart from that, learning outcomes have aims and objectives in learning activities (Nurqaidah & Hendra, 2020). Learning outcomes are skills that students master after gaining learning experiences that lead to changes in behavior (Tasya & Abadi, 2019). Apart from that, learning outcomes can also be interpreted as changes in behavior and abilities obtained by students from the learning process (Gulo, 2022). Learning outcomes are the abilities of students that are obtained after receiving lessons (Lestari et al., 2021). Learning outcomes are the real results of students' efforts to understand knowledge or skills at school (Aina Mulyana, 2020). Learning outcomes can be interpreted as changes in a person's behavior that can be studied and assessed, whether in terms of knowledge, attitudes and skills (Rahayu, 2022).

Based on the results of research conducted by (PUSPITA, 2020) that "Styrofoam media can improve student learning outcomes, increase student activity and increase teachers' abilities in carrying out the teaching and learning process. Then research conducted by (Wahyuningtyas & Sulasmono, 2020) that "the use of media in learning has been proven to increase student learning outcomes by a minimum of 43% and a maximum of 91%. Then research conducted by (Telaumbanua, 2022) with research results stating "the amount of involvement of learning media in student learning outcomes is 79%.". This is in line with research conducted by (Wibowo, 2019) "with the results of the research showing that there was an increase in the average score of students in the initial condition, the average was 31.33, in the first cycle the average was 70, 65 and in cycle II the average was 81.66, which means there was an increase in students' speaking skills in learning."

Based on the problems described above, it shows that learning must be designed according to student needs and subject characteristics. As an alternative solution to existing problems, in this lesson a media called MEFOAM (Styrofoam Photosynthesis Media) was designed which is expected to improve the learning outcomes of fourth grade elementary school students.

RESEARCH METHODOLOGY

The method used in this research is a quantitative method, this method was chosen because it displays numbers starting from data collection to interpretation. This research was conducted at SD Negeri 7 Sungai Raya on September 2 2023 from 10.00 WIB to 12.00 WIB. The subjects in this research were 25 class IV students for the 2023/2024 academic year, consisting of 15 men and 10 women. The next step is to analyze student learning outcomes after taking the pre-test and post-

test by giving scores on the student worksheet at the end of the lesson and also determining the score obtained using the following formula:

$$N = \frac{number\ of\ scores\ obtained}{maximum\ number\ of\ scores}\ x\ 100\%$$

The following is a table of criteria values to determine the results achieved by students in this research. This table is quoted from the Ministry of Education and Culture (2014:133):

Tabel 1. Assessment criteria table

Value	Criteria
Very good (AB)	90 < AB ≤ 100
Good (B)	80 < B ≤ 90
Fair (C)	70 < C ≤ 80
less (K)	≤ 70

RESULTS AND DISCUSSIONS

Based on the results of research conducted using styrofoam learning media, it shows that there is an increase in student learning outcomes compared to before. Apart from that, from the results of observations made when using Styrofoam learning media, it can be seen that students are active in learning activities and understand the lesson material. This is in line with research conducted by (PUSPITA, 2020) that "Styrofoam media can improve student learning outcomes and can also function to improve students' thinking abilities.

The table below is the learning results obtained by students after using Styrofoam learning media. The learning outcomes can be seen in the table below:

Tabel 2. Student learning outcomes

No	Name	Value
1	Amar Hasbi	90
2	Assyfa Lailirrahman	70
3	Athalla Ramadhan	80
4	Azhar Jadid Mada Putra	70
5	Azka Aditya	70
6	Cahaya Ramadani	90
7	Diah Rahma Yani	90
8	Dzaki Putra Habibi	95
9	Eriska Dwi Nasita	80
10	Fanan Farid Pratama	80
11	Faras Maulidya	95
12	Fatih Maulana Umroh	95
13	Giandra Aska Putra	95
14	Jennie Alvina	90
15	Martinus Ajung	95
16	Messi Alyun Pratama	80
17	Mukti Al Mughni	95
18	Nabhan Alvaro Lubis	95
19	Novi Indriati	80
20	Rafi Ikhsan Habibi	95
21	Raisha Ranni	95
22	Rasya Dionata Hariandra	70
23	Sabaria	70
24	Vanesa Rahmida Putri	95
25	Vico Naufal Al'zaidan	70
	Amount	2130
	Class Average	85,2

Based on the learning outcomes obtained after using Styrofoam learning media in the table above, 25 students at SD Negeri 7 Sungai Raya obtained a class average of 85.2 with a total score of 2130.

CONCLUSION

This styrofoam learning media is designed to improve the learning outcomes of class IV students at the Negeri 7 Sungai Raya Elementary School. After learning to use Styrofoam media, it turns out that the results obtained can be categorized as good. Based on the table of learning results obtained from 25 students consisting of 15 male students and 10 female students, they obtained a total score of 2130 with a class average of 85.2. This shows that all students can achieve the minimum completeness criteria that have been set, namely 70. Judging from the results of the tests that have been carried out, it can be said that student learning outcomes can be improved by using MEFOAM (Styrofoam Media). This is in line with research conducted by (PUSPITA, 2020) that "Styrofoam media in straight line equation material can improve student learning outcomes, increase student activity and increase teacher ability in carrying out the teaching and learning process". Even though student learning outcomes have increased, there are several things that are of concern for further research. In this research the subject was only focused on one class, of course this does not describe the real situation. For further research, it is recommended to take more samples to get more objective results

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