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IMPLEMENTATION OF ELECTRICAL INSTALLATION PROPS AT YAPIN KERTASEMAYA SENIOR HIGH SCHOOL

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Abstract

Physics is one of the subjects that is a scourge for students majoring in Natural Sciences at Yapin Kertasemaya High School. Based on the results of the team's interview with the physics teacher, it was found that the students were weak in electricity. In overcoming this problem, a teaching tool is made to learn basic electricity. From the results of community service activities, it can be seen that students are very enthusiastic and easily understand the material provided using teaching aids.

Keywords: Props, Electric

INTRODUCTION

The subject of physics is one of the subjects that students consider difficult besides mathematics. This opinion is supported by the results of research (Samudra et al., 2014) which found that students' difficulties in learning physics are caused by two things, namely solid physics material, memorizing, and calculating, as well as physics learning in class that is not contextual. So if the physics learning method carried out is not varied and monotonous, this makes it difficult for students to understand (Hadziqoh et al., 2022).

The development of learning methods is one way so that students do not get bored and easily understand a material. The learning methods developed must be more varied and communicative, one of which is by making teaching aids. Teaching aids as a medium for learning physics can foster and increase student interest and motivation (Muchlis et al., 2018). Teaching aids are also one of the learning media that can make it easier for teachers to carry out teaching and make it easier for students to understand the material provided (Fatwasauri et al., 2021).

According to (Amri, Sofan, and Rohman, 2013), that the use of learning media in the teaching and learning process can generate interest, motivation, stimulation of learning activities, and bring psychological influences on students. In addition to arousing student motivation and interest, learning media can also help students improve understanding, present data interestingly, facilitate data interpretation and condense information. According to (Atika, 2016) media is a tool that has a function to convey messages. Forms of stimulus used as media include human contact or interaction, the reality of moving images or not, recorded writing or

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sound. One of the learning media to support the learning process is teaching aids. Teaching aids are everything that can be used in the learning process to achieve learning objectives.

Indramayu Regency is one of the regencies in West Java. The number of high schools in Indramayu Regency is 55 schools spread across 31 sub-districts. Yapin Kertasemaya High School is one of the high schools in Kertasemaya District. Yapin Kertasemaya High School is located at Jalan Raya Tulungagung, No.76, Tulungagung, Kertasemaya, Indramayu as shown in Figure 1. According to (Kemendikbudristek, 2022) the accreditation of SMA Yapin Kertasemaya B and using the 2013 curriculum. It has a total of 6 learning groups with a total of 120 students, 13 teachers and 3 educators.

The result of discussions with the principal and teacher council was that Yapin Kertasemaya High School did not yet have a physics laboratory. So far, physics learning has only been carried out by the lecture method, meaning that the teacher is only limited to explaining without practicum or teaching aids used. The physics teacher explained that the students were weak in electrical circuit material. Subject teachers want interactive teaching aids for electrical circuit materials.

Based on what has been explained above, in order to increase student interest in physics lessons while making it easier for students to understand electrical material, a teaching aid is needed, for example, such as an electrical tool to help students understand the concept of electricity. This teaching tool is expected to be a fiscal learning medium that is easy to use and understand by students. This prop can later be used to study AC electric current DC, rangkaian seri parallel, resistor parallel series, rectifier light emitting diode, Zener diode, transistor, switch, push on, and use multimeter as measurement tool.

IMPLEMENTATION METHOD

Community service activities are carried out directly by visiting the location of Yapin Kertasemaya High School with the following stages:

1. Preparatory Stage
   At this stage, the implementation team conducted observations and identification to Yapin Kertasemaya High School as well as initial interviews with physics teachers at the school. This observation was carried out on January 25, 2023 to find out the target students, discuss activities, places and times of implementation. Furthermore, the team prepared props by making props from luggage boxes, electrical components and other equipment.
   Photograph
2. Implementation Phase
   At the implementation stage, the implementation team and students visited Yapin Kertasemaya Junior High School on July 12, 2023 and applied teaching aids to students majoring in science.
3. Monitoring and Evaluation Phase
   The monitoring and evaluation stage is the last stage in community service activities. The team conducted monitoring and evaluation on July 14, 2023 by giving questionnaires or post tests to students.

RESULTS AND DISCUSSION

Yapin Kertasemaya High School is a private formal educational institution located in Indramayu Regency. The results of observations and interviews with teachers found that electrical material had been given to students by the lecture method. This method is an easy-to-use method because it does not cost money. However, the lecture method results in classroom conditions that make students less active and the learning system monotonous. This results in less learning outcomes.

Fig. 1. Observation Photo

The service implementation team and the school agree on the design of the activities and arrange the implementation of the activities. Community service activities are carried out according to an agreed schedule. The agenda carried out was that the team gave a pre-test related to electrical material, after that presenting material related to electricity. Then the team presented the material with a more interesting delivery alternative by demonstrating props along with examples of simple questions. Furthermore, students are given the opportunity to use the teaching aids directly.

Fig. 2. Photo props exposure

Fig. 3. Photos of students using props

The teaching aids that have been made by the service team are handed over to the school so that they can be used as aids for learning.

Fig. 4. Submission photo

CONCLUSION

This activity has contributed to increasing student interest and improving student achievement. The conclusions of community service activities are as follows: (1) Teachers are motivated to vary learning methods; (2) The emergence of interest and motivation of students in learning biology; (3) Increased student achievement; (4) The teaching aids given can be used continuously.

Based on the conclusions above, the suggestions given are as follows: (1) Teachers must be creative in choosing teaching methods: (2) The school and the Education Office must pay special attention to improving the quality of learning: (3) Activities like this can be carried out continuously by involving stakeholders.

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