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TRAINING ON THE CREATION OF 3D LEARNING MEDIA FOR LITHOSPHERE MATERIALS IN THE GEOGRAPHY TEACHERS' WORKING GROUP (MGMP) OF SENIOR HIGH SCHOOLS IN PADANG CITY

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ABSTRACT: This article aims to enhance teachers' skills in creating interactive learning media and to improve teachers' understanding of pedagogical aspects that can be seen in the lesson planning process, especially in the selection of models or methods and learning media. This activity was conducted at Building B, Room 23302, Faculty of Social Sciences, Universitas Negeri Padang, using training methods, question and answer sessions, and practical exercises. Participants in this activity included Geography subject teachers from senior high schools in Padang City. The activity included training on how to design effective learning media and also provided training on creating interactive learning media on the topic of Lithosphere for high school geography teachers in Padang City. The training, conducted together with the Geography subject teachers, resulted in the creation of three-dimensional learning media and improved the teachers' skills in creating three-dimensional Lithosphere learning media. Through this training, teachers experienced an improvement in their understanding of pedagogical aspects, especially in lesson planning (RPP), particularly in the selection of models and learning media. Geography teachers also gained a better understanding of the competencies required to design and use media effectively, enabling them to create quality, efficient, and interactive learning experiences.

Keywords *- Lesson Plan, Lithosphere, Learning Media, Three Dimensions*

1. INTRODUCTION

Learning requires several components that must be fulfilled, and one of them is the use of instructional media that plays a crucial role in supporting the teaching and learning process (PBM). The selection of appropriate media is highly recommended so that, in addition to maximizing learning outcomes, creativity in teaching and learning can be enhanced [1]. Therefore, the importance of utilizing media in education should be considered an integral element in the learning process. Media in education encompasses all forms of communication tools that can be used to convey messages/information from a source to students with the aim of stimulating students' thoughts, feelings, interests, and attention during the learning activities [2]. According to [3], media serves as an intermediary between the information sender, which functions as the source or resources, and the information receiver. The definition of instructional media is a component of learning resources that contains instructional materials in the student's environment that motivate students to learn [4]. In summary, instructional media is a tool that delivers or conveys teaching [5].

Three-dimensional (3D) media refers to the use of objects, models, or physical environments that have length, width, and height in the learning process. The use of 3D media can enhance students' understanding of abstract or complex concepts in a more interactive and in-depth manner. Ashar [6] argues that three-dimensional media means a media whose appearance can be observed from any perspective and has dimensions of length, width, and height/width, mostly consisting of real objects or miniatures of an object, not photos, pictures, or paintings. [7] suggests that three-dimensional media is a group of learning

media presented in a visual three-dimensional manner. This group of media can take the form of real objects, both living and non-living, and can also represent the original objects.

The utilization of instructional media can overcome challenges arising from students' limited understanding and teachers' abilities to manage the learning process in the classroom. The appropriate use of instructional media is crucial in the learning process because media has various advantages, such as making abstract and complex concepts become something tangible, simple, systematic, and clear [8]. For some educators, creating instructional media can be a complex task, especially in the context of geography education at the high school level. Instructional media encompasses everything that can be used to convey a message from the sender to the receiver, stimulating students' thoughts, feelings, attention, and interest so that the learning process can take place [9].

[10] explain the benefits of instructional media in the student learning process as follows:

1. Learning becomes more engaging, thus fostering student motivation.
2. Learning materials become clearer in meaning, making it easier for students to understand and allowing them to achieve learning objectives.
3. Learning methods become more varied, not solely relying on verbal communication through teacher lectures, preventing student boredom and reducing teacher fatigue, especially when the teacher teaches multiple class hours.
4. Students can engage in more learning activities as they are not only listening to the teacher's explanations but also participating in other activities such as observing, demonstrating, presenting, and more.

Geography is a discipline that examines the entire contents of the Earth and the changes that occur within it. According to [11], learning geography is not just about memorizing a list of place names, geographical features, countries with their capitals. It is hoped that geography education will provide students with the opportunity to understand the environment and related processes, with the goal of equipping them with life skills that can be applied in various natural conditions. The general objectives of geography education are to develop students who have the ability, attitudes, and skills to develop analytical thinking skills in understanding geospheric phenomena, nurture a love for their homeland, appreciate the existence of other countries, and be able to address problems that arise as a result of the interaction between humans and their environment [12]. Studying geography is not limited to just reading course materials; it involves memorization and deep understanding of the material learned. This is aimed at developing an understanding of concepts, principles, and scientific processes in students. In geography lessons, the connection to spatial dimensions is very strong, so it is important to create visual representations, whether in two or three dimensions, to simplify abstract concepts. This is done to help students better understand the material and have a clear picture in their minds. The use of various types of instructional media is essential because it can stimulate students' minds, emotions, attention, interest, and learning motivation, which in turn will enhance the smoothness and effectiveness of the teaching and learning process.

Based on the results of the review and observations conducted together with the Chairman of the High School Geography MGMP and several high school geography teachers in Padang City, several problems were found in the implementation of geography teaching. Some of these problems include the limited use of teaching aids in the learning process and a lack of effort in developing concrete teaching aids, which ultimately results in a lack of interaction and students' attention to learning, especially when the material being taught is related to the lithosphere. The main cause of this is the lack of initiative on the part of teachers in creating teaching aids that are suitable for lithosphere-related materials.

To improve the quality of student education, an appropriate learning approach and the use of suitable media are required to enhance the quality of learning. This media has the capability to depict objects in three dimensions, thus creating a realistic experience. The creation of learning media related to the lithosphere, especially regarding the Earth's rock layers, faults, and folds, can utilize the resources available in the surrounding environment of the residence or school. With this learning media, teachers can explain these concepts not only through pictures or videos but also by directly demonstrating the form of Earth's rock layers, faults, and folds in lithospheric materials.

Based on observations and interviews with high school geography teachers in Padang City, there are several issues that arise in geography education. One of them is the limited availability of teaching materials and the lack of

development in the use of three-dimensional media. This has resulted in a decrease in the level of student participation, interaction, and attention to the teaching and learning process, especially when the taught material is related to lithosphere content.

Of course, these issues will have an impact on the quality of learning and the performance of students. Learning success can only be achieved when students can easily understand the material and actively participate in the teaching process. Therefore, the use of appropriate learning approaches and media is needed to enhance the effectiveness of the learning process. The challenges faced by teachers and students will significantly affect the quality of education outcomes.

Based on the evaluation of the situation and the issues that have been analyzed together with our partners, the Community Service Team from the Geography Department at FIS UNP proposes a solution to address these challenges through a series of activities. This solution includes conducting training to enhance the development of Geography instructional media skills, as well as training to improve understanding and utilization of instructional media focused on lithosphere material concepts.

2. METHODS

The Community Service Activity of the Geography Department at FIS UNP was held in Building B, room 23302, Faculty of Social Sciences, Universitas Negeri Padang. The participants involved in this community service activity were geography teachers from the MGMP Geography Kota Padang, with a total of 25 people. The implementation plan for the activity can be found in Table 1 below:

Table 1 Plan of implementation of activities

No	Activities	Type of Activities	Description
1	I	Improvement in knowledge about designing effective learning media	The speaker provides the material and then assigns tasks with a format of 25% theory and 75% practical in designing learning media
2	II	Training in the creation and utilization of instructional media, namely 3D models of Earth's geological features such as layers, folds, and faults in the lithosphere material	The speaker provides the material and then assigns a task with a format of 25% theory and 75% practical in designing media for Earth's rock layers, faults, and folds. Each teacher creates teaching media in accordance with the specified learning objectives (KD).

3.RESULTS AND DISCUSSION

Training on the creation of geography instructional media about folds and faults in the lithosphere material was conducted on August 21, 2023, from 08:00 to 16:00 WIB at Room 23302, Building B, Faculty of Social Sciences, State University of Padang. In this training, it was led by Dr. Deded Chandra, S.Si., M.Si, with members including Dr. Helfia Edial, M.T, Dr. Iswandi U, S.Pd., M.Si, Sri Mariya, S.Pd., M.Pd, Sari Nova, S.Pd., M.Sc, Sri Kandi Putri, S.Si., M.Sc, Mentari Dian Pertiwi, M.Pd. They were assisted by the Geography Student Team consisting of Ahmad Alkhalil, Annisa, Layla Natasya, Ilham Endriadi, Mengki Saputra, Muhammad Alwi Husein, Muhammad Fhadillah, Yovia Putri, as well as the Geography Prajabatan PPG Wave 2 Students, Fregy Pratama, S.Pd, and Rahmat Fajar Agusti, S.Pd. This training was attended by 25 members of the Geography Teachers' Association (MGMP Geografi) from senior high schools in Padang. Here are some photos from the training activitie:

Figure 1. Opening of Training on the Creation of Earth's rock layers, Fold and Fault Media for Lithosphere Materials

Figure 2. The process of explaining the Creation of Earth's Rock Layer Media, Lithosphere Material Deposition, and Faults

Figure 3. The Process of Creating Earth's Rock Layers, Crust, and Lithospheric Material

Figure 4. Results of Training on the Creation of Earth's Rock Layers, Faults, and Lithosphere Material Media

The community service event organized by the Department of Geography at UNP's Faculty of Social Sciences, titled "Training in Creating Interactive Learning Media (Earth's Rock Layers, Folding, and Faults)," has been conducted in Room 23302 of Building B, University of Negeri Padang's Faculty of Social Sciences. This training was held with the primary goal of enhancing teachers' abilities to create more diverse learning media beyond just using two-dimensional tools like PowerPoint. Instead, they were taught to create three-dimensional media, such as miniature models of Earth's rock layers, folding, and faults.

The implementation of this training is a manifestation of the awareness of the service team regarding the importance of assisting teachers in acquiring skills to create more diverse and interactive learning media. The use of three-dimensional media, such as miniature layers of the Earth's crust, folds, and faults in lithosphere materials, will facilitate teachers in explaining lesson materials to students. This will also help students to better understand and remember information related to topics such as folds and faults, especially in the context of geography within lithosphere materials.

The community service team of the Geography Department at FIS UNP realizes that despite the support of advanced technology in modern life, the role and function of teachers in the classroom remain irreplaceable. Teachers who are liked by students are those who can teach in a non-monotonous manner. Therefore, in the learning process, teachers use three-dimensional media to make the learning environment more lively and enjoyable for students. Due to the importance of this role and function of teachers, this training is considered very important and should be conducted continuously, both with guidance from university professors and independently through their respective MGMPs.

The community service provided by the Geography Department of FIS UNP has been successfully implemented for the Geography Teachers' Working Group (MGMP Geografi) of senior high schools in the city of Padang, using UNP's 2023 PNBP funds, with positive outcomes. During its execution, both teachers and students showed high enthusiasm and happiness regarding this training. There are several important notes that need to be considered by all parties involved. Firstly, the teachers have experienced significant benefits from this community service, as revealed through interviews conducted by the service team with training participants. The teachers were very enthusiastic about participating in this training because they did not possess maximum skills in creating teaching materials. They rarely used teaching materials during the teaching and learning process. Secondly, the creation of three-dimensional teaching materials in this training requires significant time and effort in the production process. However, the production of these materials is relatively easy and does not require a large budget, thus not disrupting the classroom teaching and learning process. The use of teaching materials like this provides greater benefits compared to traditional lecture methods.

A teacher who demonstrates a high level of professionalism will strive to ensure that their students can easily comprehend the lesson materials and will create simple yet useful learning resources to support the teaching process.

4.CONCLUSION

The participants in this training activity consist of members of the Geography MGMP (Subject Teacher Working Group) for senior high schools in Padang, totaling 25 teachers. In line with the purpose of conducting this community service event, after the event is completed, it is expected that the teachers will have improved abilities in creating three-dimensional media, such as models of Earth's rock layers, folds, and faults in the lithosphere material, which are used in geography teaching. The advantage of this media is that teachers can create interactive teaching materials so that students can quickly understand the subjects presented by the teacher, and this media is also made at an affordable cost, so it does not burden a teacher.

It is hoped that this introduction and training activity will enable subject teachers to continue self-training in creating various three-dimensional media, not limited to just models of Earth's rock layers, folds, and faults, but also for other objects included in the learning materials. In addition, teachers are also encouraged to integrate the use of three-dimensional media, such as models of Earth's rock layers, folds, and faults, into the lithosphere material in the teaching process of geography subjects. It is suggested that teachers involve a project-based learning approach to enhance student understanding. Therefore, it is expected that geography teachers will have better competence in designing and implementing effective learning media, thus creating a higher quality learning experience.

5.GRATITUDES

We would like to express our gratitude, especially to the Chairperson of the MGMP Geography SMA Kota Padang, as well as all the members of the MGMP Geography SMA Kota Padang who participated in this training activity. Furthermore, we would also like to extend our thanks to everyone who has provided support for the implementation of this activity.

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