

Training on the Use of Montessori-Based Mathematics Learning Media for Primary and Secondary School Teachers in Thousand Islands

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Abstract

Learning media has an important role in learning mathematics because mathematics is an abstract science and requires a deep understanding of concepts. Students have difficulty in understanding mathematics due to the teacher's monotonous explanation in class without any learning media or epraga tools. Fun learning media is interactive learning media, which allows students to use the media themselves and interact both with other students and with teachers. One example of interactive learning media is Montessori learning media. Based on observations at partner locations, it was found that mathematics teachers in elementary and secondary schools have never used Montessori learning media, therefore training on the use of Montessori-based learning media is needed for elementary and secondary school teachers so that classroom learning runs optimally in accordance with learning objectives. Training on the use of Montessori-based learning media has a positive impact on teachers, it can be seen from the final questionnaire of the training participants provide positive feedback, to this training activity, namely with data interpretation of 96%.

Keywords: Training, Learning Media, Mathematics, Montessori

Abstrak

Media pembelajaran mempunyai peranan penting dalam pembelajaran matematika dikarenakan matematika merupakan ilmu abstrak dan butuh pemahaman konsep yang mendalam. Siswa kesulitan dalam memahami matematika dikarenakan penjelasan guru di kelas yang monoton tanpa adanya media pembelajaran atau alat epraga. Media pembelajaran yang menyenangkan adalah media pembelajaran interaktif, yang memungkinkan siswa menggunakan sendiri media tersebut dan berinteraksi baik dengan sesama siswa lainnya maupun dengan guru. Media pembelajaran interaktif salah satu contohnya adalah media pembelajaran Montessori. Berdasarkan observasi di lokasi mitra, didapat bahwa guru-guru matematika di sekolah dasar dan menengah belum pernah menggunakan media pembelajaran Montessori, oleh sebab itu diperlukan pelatihan penggunaan media pembelajaran berbasis Montessori untuk guru-guru sekolah dasar dan menengah agar pembelajaran di kelas berjalan optimal sesuai dengan tujuan pembelajaran. Pelatihan penggunaan media pembelajaran berbasis Montessori berdampak positif bagi guru, hal itu terlihat dari kuesioner akhir pelatihan peserta memberikan umpan balik yang positif, terhadap kegiatan pelatihan ini, yaitu dengan interpretasi data sebesar 96%.

Kata Kunci: Pelatihan, Media Pembelajaran, Matematika, Montessori

INTRODUCTION

One of the main pillars in the development of a nation is education. Human resources can develop through education so that they can make a positive contribution to social, economic, and cultural progress. In this era of globalization, the implementation of learning has involved a lot. Various learning methods are more dynamic and interactive, one of which is the use of learning media.

Learning media includes all types of tools or materials used to support the teaching process and learning so as to facilitate the delivery of material when teaching in schools.

Learning media helps teachers to make students happy when learning and not feel bored. According to (Kustandi 2016: 6) the

development of learning media requires that teachers are able to use the tools provided in schools, and it does not rule out the possibility that these tools are in accordance with the development and demands of the times. According to Sriwahyuni and Mardono, (2016) a fun learning process will make students motivated to learn so that the learning process continues effectively and efficiently. By using learning media, the learning process can arouse student enthusiasm and interest, student learning motivation, and bring psychological influence to students. Not only that, the media is also expected as a form of concrete experience that can be felt by students.

Learning media has an important role in learning mathematics because mathematics is an abstract science and requires a deep

understanding of concepts. Students have difficulty in understanding mathematical concepts due to the teacher's monotonous explanation in class without any learning media or teaching aids. Fun learning media is interactive learning media, which allows students to use the media themselves and interact with both fellow students and teachers. One example of interactive media is Montessori-based learning media. (Listiani, 2018 p. 14) says that "Montessori-based learning media has 4 characteristics, namely, there is error control, can be used independently, graded colorfully, and made as attractive as possible in order to generate student motivation to learn". Based on previous research conducted by (Rika Purnama Sari, 2019), stated that there is an influence of Montessori-based learning media on learning outcomes. So here researchers are encouraged to develop fractional Montessori props. Researchers choose fraction props to make it easier for students to understand the concept of fractions and operations on fractions. The props used by the researcher are fractional magnetic blocks.

To examine more deeply the influence of Montessori-based learning media, researchers focused their attention on elementary and secondary school teachers in the Thousand Islands. Kepulauan Seribu is an administrative district in the Special Capital Region of Jakarta. Based on observations at partner locations, it was found that mathematics teachers in elementary and secondary schools have never used Montessori learning media, therefore training on the use of Montessori-based learning media is needed for elementary and secondary school teachers so that classroom learning runs optimally in accordance with learning objectives. This article aims to measure the positive impact of community involvement in the delivery of Montessori-based learning media.

METHOD

Training activities in the context of the Implementation of Community Service were carried out in DKI Jakarta Province, precisely on Tidung Island, Thousand Islands. This training will be held on July 22 – 24, 2023. The target of the training is elementary and secondary school

mathematics teachers both public and private on Tidung Island, Thousand Islands, DKI Jakarta Province.

The method used in this community service activity program is the provision of theory and practice. Theory is given in the form of training by resource persons, while practice is carried out in groups accompanied by two lecturers of the Mathematics cluster FMIPA UNJ. The program of activities that will be carried out in community service activities, namely Training on the Use of Montessori-Based Learning Media.

Training using lecture and demonstration (practice) methods with the following activity description:

(1) At the beginning of the activity, participants will be given supporting theories related to the aspects to be trained.



Figure 1. Explanation of Montessori media theory

(2) Participants practice or practice independently or in groups to practice according to the material provided.



Figure 2. Group participants practice Props

(3) Participants and resource persons conduct discussions after practice independently or in groups.



Figure 3. Discussion after props practice

RESULTS AND DISCUSSION

Based on the results of dedication, there are several things that must be discussed. First, accompany the enthusiasm of the participants in participating in this training. The enthusiasm of the participants in the research can be seen from the presence and discipline of the participants during the activity. This training activity was attended by 25 participants which was in accordance with the previously planned target of 25 elementary or junior high school / K equivalent teachers in the Tidung Island area, Thousand Islands. Thus, it can be said that the target participants reach 100%.

The achievement of the objectives of this training has been good, this can be seen from the results of the participants' training, namely the mastery ability to use media to complete fractional operations. Then it can be concluded that the purpose of this activity is achieved. The achievement of material targets in training activities in Community Service is also good, because training materials have been delivered Overall. The material that has been delivered is:

- Explain Montessori-based learning media.
- Determine the fraction worth of the fractional magnetic block medium.
- Comparing fractions using fractional magnetic blocks.
- Determine the result of fractional operations by using fractional magnetic blocks.

This activity contributes greatly to participants (teachers) in creating interesting interactive learning so as to make students not bored in class. From the results of this activity shows Training on the use of Montessori-based learning media has a positive impact on teachers, it can be seen from the final questionnaire of the training participants provide positive feedback, to this training activity, namely with data interpretation of 96%. This can be seen from the evaluation results obtained by giving

questionnaires to participants after the training activities were carried out. Even with the limited time available, there are quite a lot of things obtained by participants, with the teaching aids make them want to try again and ask to do further activities and understand other learning media that can help the teaching and learning process to be more interactive.

CONCLUSION

Based on the results of the research conducted, it can be concluded that training on the use of Montessori-based media has a positive impact on community involvement in the delivery of learning media to help the delivery of fractional material. Props, namely fractional magnetic blocks, can be used to help understand the concept of fractions, such as fractions of value, comparing fractions, and operations on fractions. Learning media using these teaching aids can create more interactive teaching and learning activities. Not only teachers, students can also be directly involved independently using these teaching aids to find solutions to problems given by the teacher.

SUGGESTION

Further training needs to be held on the development of learning media to help effectiveness in the teaching and learning process. After this training, it is hoped that the participants will continue to explore and look for more sources of information and hone their skills optimally so that they can apply them in the school environment. The use of media in learning also requires support from the government and schools to develop other media so that the use of media in the classroom can be used in every school material.

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