Training on Developing Powtoon-Based Animated Video Learning Media for Mathematics Practitioners in Mataram

Ratna Yulis Tyaningsih[1] , Arjudin[2] , Nilza Humaira Salsabila[3] , Xie Guilin[4]

[1]Universitas Mataram, Indonesia
[2]Universitas Mataram, Indonesia
[3]Universitas Mataram, Indonesia
[4]University of Science and Technology of Hanoi, Vietnam

ABSTRACT

Background. Learning media has a very important role in supporting the acceptance of information conveyed by the teacher to students. Through the media, information will be more easily accepted by students because it looks attractive so that students can focus more on understanding the material. However, based on initial observations in the field, many teachers have not utilized the latest digital media such as Powtoon.

Purpose. The media that are commonly used are still in the form of Powerpoint (Ppt) and Student Worksheets.

Method. This Community Service Activity (PKM) aims to provide training and assistance in making Powtoon-based animated video learning media for Mathematics academics in Mataram City. This activity was carried out online and was attended by 50 participants who were Mathematics practitioners in the City of Mataram.

Results. The result of this community service activity is a Powtoon-based animated video learning media made by each participant. This learning media created is the result of mentoring PKM activities and is the output of these activities. In addition, there was a positive response from the trainees of 91.04% regarding mastery of the material, the technique of delivering the material, suitability of the material and the needs of the trainees, and the completeness and ease of operation of the Powtoon program.

Conclusion. Thus, this PKM activity significantly improves the quality of learning mathematics in the classroom. Through this training and mentoring, trainees as Mathematics practitioners in the City of Mataram can produce Powtoon-based animated video learning media that suit students' needs.

KEYWORDS

Animated videos, Learning media, Mathematics practitioners, Powtoon

INTRODUCTION

Education in Indonesia at this time with a new policy, namely the implementation of the Merdeka Curriculum, has experienced a paradigm shift in a better direction (Anoum dkk., 2022; Gabriela dkk., 2022; Qureshi dkk., 2022). In the learning process, teachers are given the freedom to create quality learning according to the needs and learning environment of students, which is called differentiated learning in the Merdeka Curriculum

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(Kamila dkk., 2023; Pranajaya dkk., 2022). Good learning media can convey messages/information so that it can be well received and understood by students and creates quality learning (Marliansya dkk., 2023; Rahim dkk., 2022). Media is a communication intermediary between teachers and students so that the message/ information conveyed.

Therefore, media has a very important role in learning (Aikal, 2022; Bay dkk., 2022). The development of information technology currently plays an important role in creating innovation in learning media (Gaol & Prasolova-Førland, 2022). Technology-assisted media has advantages when compared to other media because it can combine elements of audio-visual, animation, and interactivity to create more innovative learning (Adnan dkk., 2023; Suwandi & Wardhani, 2023). Innovative media can stimulate attention so that when receiving newly acquired information/knowledge it can be easily understood (Lasdya dkk., 2022; Yu, 2022).

Based on field observations, the community service team obtained initial data information regarding the analysis of participants' needs for technology-based learning media which is presented in Figure 1 as follows.

Figure 1.
Need Analysis Survey for Technology-Based Learning Media
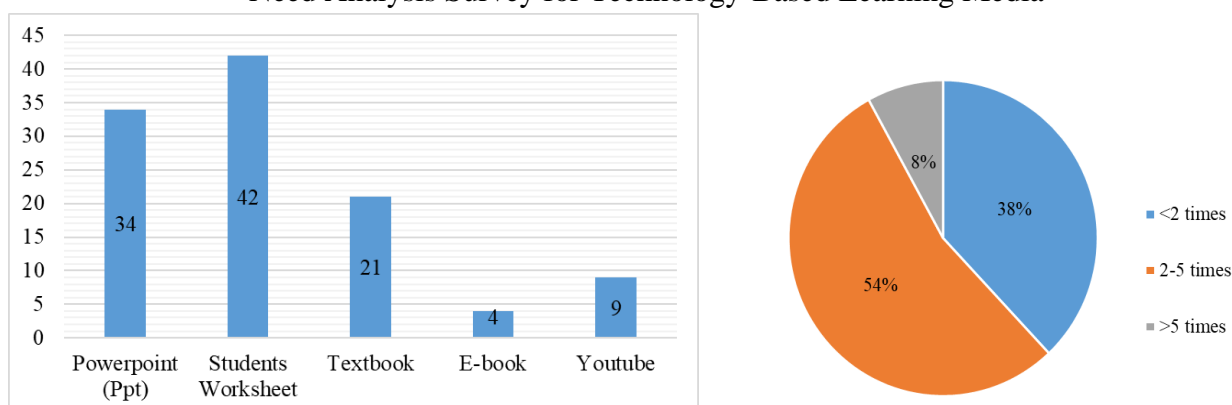
a)   Types of Learning Media that are commonly used   b) Intensity of Use of Audio Visual Media in 1 Month

Figure 1 shows the types of media that are commonly used by trainees in the learning process in class. Question part a) allows trainees to choose more than one answer and the two most choices are obtained, namely Powerpoint (Ppt) and Student Worksheets (LKPD). This means that the training participants are rarely or even not used to making instructional media in the form of interactive animated videos (Dewi S dkk., 2022; Kartel dkk., 2022; Keshav dkk., 2022). Meanwhile, question part b) shows how often the trainees use audio-visual learning media. Figure 1b) shows that 38% of respondents use audio-visual media less than two (<2) times a month and 54% of respondents use audio-visual media two to five (2-5) times a month in learning practice. So that it can be said that training participants rarely use audio-visual learning media (Demina dkk., 2022; Hikmah dkk., 2022; Kartel dkk., 2022). Audio-visual media can improve student learning outcomes and increase students' interest in being actively involved in the learning process (Aprianto dkk., 2022). Therefore, in practice in the classroom, teachers need to innovate audio-visual-based learning media that can attract students' attention.

One of the innovative technology-based learning media that can attract students' attention is Powtoon. Powtoon is a cloud-based animation software for creating animated presentations and animated exploratory videos (Unlu & Kiray, 2022). Powtoon can provide a clear presentation of material or messages and is not verbalised or in the form of written words and sentences or oral delivery (Sakti & Napsawati, 2021). Powtoon can provide visual and audio information which can

be combined into an interesting animated video form (Firman dkk., 2022; Ilham dkk., 2022; Safitri dkk., 2022). The design of the Powtoon application has a choice of various, colorful backgrounds, animated images, characters, and musical accompaniment that can be added to videos so that learning becomes more interesting (Wulandari dkk., 2020). can be absorbed properly. Another opinion (Awalia dkk., 2019) also states, Powtoon animation learning media can provide an understanding of the material to students. Based on the description of the results of field observations and the importance of implementing technology-based learning media, the community service team took the theme for Community Service Activities (PKM) with the title "Training on Making Powtoon-Based Animated Video Learning Media for Mathematics Practitioners in Mataram City"

RESEARCH METHODOLOGY

This community service activity is carried out using online training and mentoring methods through Google Meet. The participants in this training were 50 Mathematics practitioners in the city of Mataram. This community service activity is divided into three stages including:

1. Preparation stage

   At this stage, the community service team carries out three main activities, namely a) preparing training material on Powtoon-based animated video learning media and tutorials for making the media, b) distributing tutorials for creating accounts in the Powtoon application so that during implementation the trainees are ready to use the site. the digital application, and c) prepare an initial observation questionnaire and a training participant response questionnaire in the form of a Google form.

2. Implementation Stage

   At this stage, the service team carried out 4 main activities, namely a) distributing initial observation questionnaires in the form of a survey of the need for technology-based learning media and the practice of using audio-visual learning media in the field, b) delivering training material on making Powtoon-based animated video learning media, c) questions and answers regarding materials and tutorials for making Powtoon media, d) providing assisting in making Powtoon-based animated video learning media and publishing them on the Youtube Channel of each trainee.

3. Evaluation and Reflection Stage

   At this stage, there are two main activities, namely a) asking trainees to submit training assignments, namely making Powtoon-based animated video learning media as the output of this PKM activity and b) reflecting on activities through online questionnaires to find out participants' responses to PKM activities that have been done.

RESULT AND DISCUSSION

This Community Service Activity (PKM) aims to provide training on making Powtoon-based animated videos for mathematics education practitioners in Mataram City (Hartini dkk., 2022; Najeed dkk., 2022; Nopiana dkk., 2022). The theme of this animated video learning media training was chosen because it is by the learning conditions after the COVID-19 pandemic with a new curriculum, namely the Independent Curriculum, commonly called the Independent Learning Curriculum where teachers are given the freedom to create learning according to the needs of students in class, this is what is called with differentiated learning (Dianovi dkk., 2022; Rahmah dkk., 2022; Rohmalimna dkk., 2022). Teachers are required to be able to create digital-based learning media that are not limited by space and time and can be used anywhere and anytime.

PowToon is a web-based application suitable for creating simple two-dimensional (2D) animations (Putra dkk., 2022). The Powtoon application site gives users the freedom to choose the shape of the animation to be created. As a practitioner in the field of education, the animation chosen must be adapted to the field, for example, the field of Mathematics Education. The character chosen must also reflect the character of a teacher (Amado-Alonso dkk., 2019; Hermansyah dkk., 2023; Noer dkk., 2023). The advantages of the Powtoon are being able to display videos with interesting animations and various characters (Akmalia dkk., 2021; Susanti dkk., 2020). Users can choose the type of Powtoon account they want, they can choose free, pro, or pro+. For free account users, the drawback is that the published learning videos are no longer than 3 minutes and there is a watermark at the opening, content, and closing of the video.

In the preparation stage for this PKM activity, participants created a Powtoon account according to the tutorial guide that had been given by the previous service team. The type of account chosen by the trainees is free (not paid) so the output of this activity is in the form of an animated video accompanied by a watermark in the opening, content, and closing sections. Furthermore, the service team also prepared instruments that would be used to collect data on what types of learning media were commonly used by educational practitioners and how many times they were used each month.

At the implementation stage, participants filled out an initial observation questionnaire regarding the analysis of the needs of technology-based learning media and the quantity of audio-visual video use used in one month with the results shown in Figure 1. Next, the community service team delivered training materials and tutorials for making Powtoon-based animated videos as shown in Figure 2 as follows.

Figure 2.
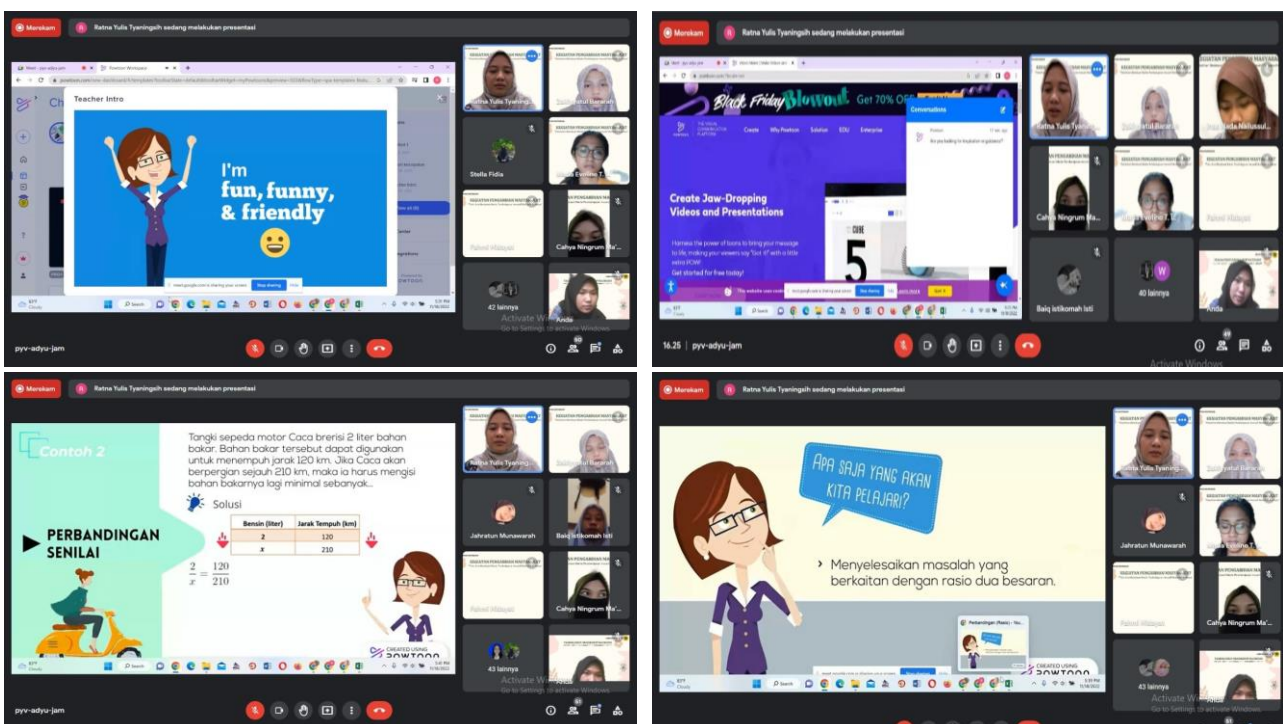Presentation of Material in Community Service Activities (PKM)

Figure 2 shows a screenshot of PKM activities carried out online through the Google Meet application. During the training process this was recorded and the results of the recording were also distributed to participants to help participants when working on the final project which was the

output of this PKM activity. At the end of the session, the entire service team and training participants took a group photo as shown in Figure 3 as follows.

Figure 3.

Photo documentation of the training at the End of the Session in Community Service Activities
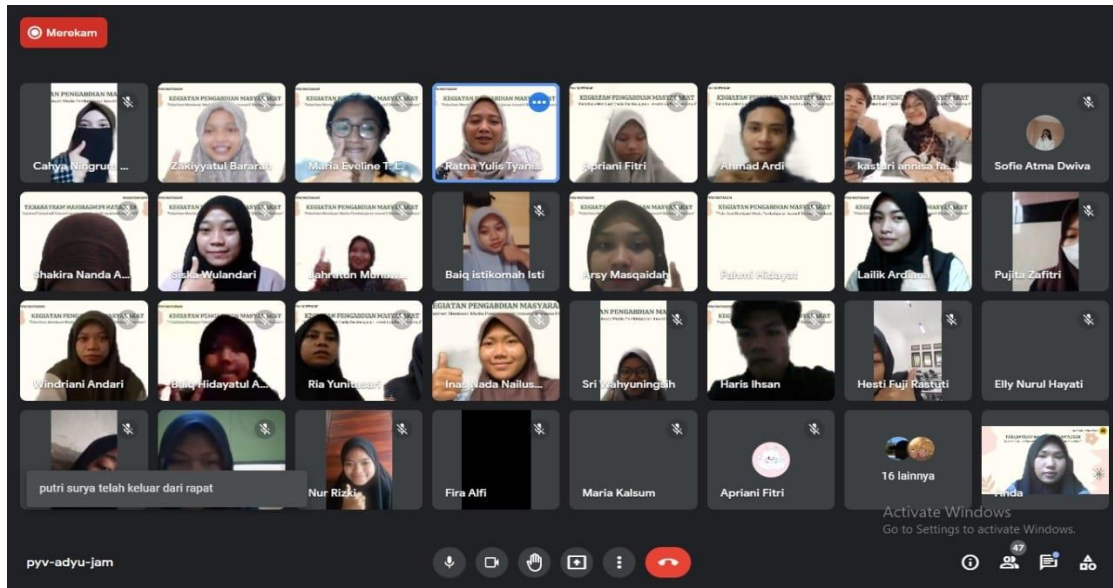
During the evaluation and reflection stage, the training participants filled out an online questionnaire to find out the participants' responses regarding the training that had been carried out. The results of the training participants' response questionnaire to the PKM activities are presented in Table 1 as follows.

Table 1.

Responses of Trainees to the Implementation of PKM Activities

Assessment Aspects	Trainees Response (%)
Material Mastery	90
Material Delivery Techniques	91.6
Suitability of Materials and Trainees' Needs	93.2
Completeness of Training Materials	89.6
Ease of Operation of the Powtoon Program	90.8
Total Average	91.04 (Positive)

Table 1 shows the percentage value of the response of the training participants to the PKM activities that have been carried out, which is 91.04% and is included in the positive response category. For the aspect of mastery of the material from the resource person, that is 90%, the technique of delivering training material is 91.6%, the suitability of the material to the needs of the training participants is 93.2%, the completeness of the training material is 89.6% and the ease of participants in operating the Powtoon program is 90.8%. This means that the participants gave a positive response by holding Powtoon-based animation video learning media training.

Furthermore, the community service team assisted training participants to create Powtoon-based animated video learning media for mathematics material. The results of this training assignment are collected online in the form of Google Drive. Some screenshots of the results of the animated videos made by participants on the Number Patterns material are presented in Figure 3.

Figure 3.

Powtoon-Based Animation Learning Media Shows on Number Patterns

Another screenshot of the Powtoon-based animation video for Social Arithmetic material is shown in Figure 4 as follows.

Figure 4.

Powtoon Based Animated Video Learning Media Shows on Social Arithmetic

Figure 3 and Figure 4 show screenshots of Powtoon-based animated videos made by trainees in PKM mentoring activities. The results of other animated videos have been stored on Google Drive by the dedicated team.

CONCLUSION

The Community Service Activity (PKM) with the theme of training on making animated videos based on Powtoon aimed at Mathematics Education practitioners in Mataram City resulted in the following conclusions.

1. In the initial observation, a survey of the participants' needs for technology-based learning media was carried out. Some information was obtained that the types of learning media that were often used were Powerpoint (Ppt) and Student Worksheets (LKPD).
2. Other information, namely that there are 38% of respondents use audio-visual media less than two (<2) times a month, and 54% of respondents use audio-visual media two to five (2-5) times a month in learning practice.
3. There was a positive response from the training participants of 91.04% to the Powtoon-based animation video creation training held.
4. There is the output of PKM activities in the form of Powtoon-based animated videos that are collected on Google Drive.

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AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Project administration; Writing - review and editing.
Author 2: Supervision; Resources; Investigation.
Author 3&4: Formal analysis; Methodology; Writing - original draft.

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