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Fostering Junior High School Teachers' Competence in Technology-Assisted Learning Media Development

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Abstrak

Technology literacy and poor teaching competences are common weaknesses experienced by junior high school teachers. This is because most junior high school teachers rarely use technology-based media in developing learning materials. Lecturers of English Education Study Program, Universitas Muhammadiyah Purworejo held training on technology-assisted learning media to overcome the problems faced. The method used was covered four steps namely problem analysis, preparation, implementation, and evaluation. The training activities were carried out face to face at SMP N 22 Purworejo. A total of 36 (thirty six) teachers participated in this activity. To evaluate the training program's achievements and participant responses, close-response questionnaires and semi-structured interviews were conducted after the presentation and discussion sessions finished. The results of the interviews showed that the participants were happy and enthusiastic about participating in the training activities. This community service program is able to increase teacher competence in developing technology-based learning media. The output of this program was an article published in a national-accredited journal. Further training needs to be held by increasing the number of participants from junior and senior high school teachers.

Kata Kunci: *Technology, Assisted, Learning media, Teacher competences*

1. Introduction

The low literacy of students in reading, mathematics, and science is caused by the factors of equity, number, and low competence of teachers. Indonesia's literacy rating has not changed from previous years. Indonesian students frequently get difficulties for global competitiveness. The low mastery and application of technology in learning process is a factor causing low quality of Indonesian education (Fitri, 2021).

The post Covid-19 pandemic changes learning models at schools from online to blended learning. Teachers are required to utilize technology in the learning process. Teachers are encouraged to create fun and interactive learning for students. Understanding and mastery of ICT-based learning media for teachers is a determining factor for the success of blended learning. All educators at all levels of education from junior high school to university are required to teach blended learning. This change demands teachers' technology literacy in adapting various technology-based learning techniques and media (Urhan *et al*., 2018).

The poor teaching competence of junior high school teachers is caused by several factors (Hoesny & Darmayanti, 2021). Those obstacles relate to recruitment methods for pre-service teachers, digital literacy, and carrier development guarantees. Another problem is about teachers' willingness to do self-development by joining education and training held by the government. Also, many teachers have different educational background from what they are currently teaching; this causes poor academic competences toward the subject matter.

Digital literacy in learning for junior high school teachers is also still low. Junior high school teachers are accustomed to teaching students without using media. In fact, students at the junior high school level are interested in learning digital materials delivered by their teachers (Utami & Hasanah, 2019). This causes teachers need to be familiar with using media/ technology in learning. Those problems are faced by the partner of community service program in SMP N 22 Purworejo.

Various strategies are carried out by the government in developing teachers' technology competences. Junior high school teachers are encouraged to attend training, workshops/ seminars, focus group discussions related to the latest learning media models. Strengthening technology literacy can be increased through the introduction of digital media used in blended learning. Developing learning media cover a range of interactive media such as visual, audio, and audio-visual media. Teachers use digital media to explain materials to their students in the teaching-learning process (Dirgantoro, 2018).

Based on the need analysis and the problems found, the lecturers of the English Education Study Program organizes the community service program for junior high school teachers. This program is expected to be able to improve teachers' technology literacy for material development and for delivering the materials to their students.

2. Method

This community service program was carried out on December 22, 2021 through face-to-face training. A total of 36 (thirty six) junior high school teachers from various sub-districts in Purworejo Regency participated in digital literacy strengthening activities. Participants in this activity are between 25-40 years old with an average teaching experience at the junior high school level between 1-20 years. The resource persons for the activity were three (3) lecturers of the English Education Study Program, Universitas Muhammadiyah Purworejo.

The steps of the training activities (Figure 1) included four stages: (1) problem analysis, (2) preparation, (3) implementation, (4) evaluation. The problem analysis phase comprised the identification of teacher problems in schools. The preparation stage included formal permission and coordination with partners, discussion of activity plans, and preparation of materials. The implementation phase covered the delivery of materials and discussions. Next, the evaluation phase was about filling out questionnaires and semi-structured interviews with the participants.

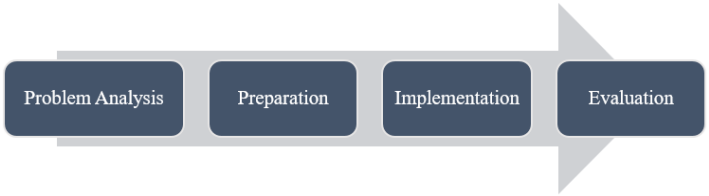

Figure 1. The Steps of Training Activities

The problem analysis stage was carried out by the doers to obtain information and identify various problems faced by partners. The problems were analyzed by observations and interviews. In the preparation stage, the lecturers asked for permission from the Institute for Research and Community Service (LPPM) of Universitas Muhammadiyah Purworejo and the Principal of SMP N 22 Purworejo, Purworejo Regency. Furthermore, coordination was carried out with the coordinator of the Purworejo Regency Junior High School teacher to determine the topic and time of the activity.

The prepared materials were related to the development of technology-based learning media. At the implementation stage, the resource persons and activity participants carried out activities consisting of the delivery of training materials on strengthening digital literacy and continued with a question and answer session. In the evaluation stage, 36 participants were asked to fill out a questionnaire related to the program participants' perceptions of the benefits of implementing the program. The questionnaire contained ten questions related to attitudes, benefits, and challenges aspects which were developed using a Likert scale, namely *strongly agree (4), agree (3), disagree (2), and strongly disagree (1)*. Some participants were also asked to answer several questions in the online interview session.

3. Result and Discussion

The activity was attended by participants who came from junior high school teachers from various sub-districts in Purworejo Regency. The event started with an opening remark by school principal of SMP N 22 Purworejo. The activity was followed by the material delivery by the speakers. The three speakers presented material on the use of digital media, Canva application, and Google Site. The first speaker delivered material about benefits of digital media in learning material development. The second speaker talked about Canva for developing learning media. Next, the third speaker presented the procedures for delivered material on the use of digital media in learning material development. The third speaker delivered a learning material on Google Suite application.

In the discussion session, there were three participants who asked the questions given directly. The questions were related to the importance of technology-assisted media, how to use Canva, and the procedures of using Google Site for junior high school teachers. All the questions asked could be well answered by the speakers.

After the presentation and discussion session, a number of trainees were interviewed about the benefits of technology-based learning media training for school teachers. The activities were presented in Figure 2 and Figure 3.

Figure 2. Material Presentation

Figure 3. Discussion Session

Online evaluation using a Google Form was carried out through close-response questionnaires and semi-structured interviews with training participants. This evaluation was conducted to see the achievements of the program in improving the teachers' technology literacy. The results of the questionnaire showed the benefits of technology-based learning media and the use of technology literacy in developing interactive learning media presented in Table 1.

Table 1. Results of Close-Response Questionnaires

	Statement Items	Mean
1.	I have known Canva before joining this training.	2.39
2.	I use Canva for developing learning materials.	2.83
3.	Canva makes u easy for developing learning materials.	3.50
4.	Teachers need to use Canva for material development.	3.61
5.	This training develops my ability in using Canva.	3.64
6.	Teachers are required to use technology for accomplishing their tasks.	3.61
7.	Teachers need to master technology for developing learning materials.	3.61
8.	Students are motivated to learn materials with technology.	2.55
9.	Students are familiar with technology used by the teachers.	3.32
10.	Students need to practice technology-based materials in class.	3.44

Table 1 shows partners' responses toward the implementation of technology in learning media development. The perceptions consist of attitudes, benefits, and challenges of technology and training for teachers. It reveals that teachers' abilities could increase after joining this program. The interviews results describe three main findings.

3.1. Teachers' Technology Literacy Improvement

This program is good for teachers in improving technology literacy skills. Before the training, teachers do not understand how to use various digital media in learning. Based on the findings, the community service program improves the ability of teachers to use technology in learning material development. Digital media makes it easier for teachers to develop materials in classroom teaching. In addition, students will be interested in learning when teachers use technology in learning. Digital media also increases the active participation of students in the classroom (Mashoedah, 2015; Dewi & Hilman, 2019).

> *In my opinion, this activity is very good for helping junior high school teachers in mastering various kinds of digital media. Before this, I don't know what digital media is. (Interview, Participant 1)*

3.2. Learning Material Development

This program is good for students in improving English skills. Prior to the training, the competence of junior high school teachers was still lacking, which was indicated by weak vocabulary mastery and improper word pronunciation. The learning material development program improves teacher competence in teaching their students. After participating in this activity, the teachers' ability for material development can increase and become better. This is shown by the results of interviews with trainees of the community service program. The participants mastered the use of digital media which includes Canva and Google Suite applications. The use of digital media emphasizes the active participation of students where the teacher acts as a facilitator in learning (Anwar, 2017; Ramdani *et al*., 2021).

> *I think this activity is important to improve the students' ability. As a non-information technology graduate, I feel very weak in using media for material development. (Interview, Participant 2)*

3.3. Ease of Digital Media Platforms

This program is vital for teachers in mastering various digital media platforms. Prior to the training, teachers do not know the various types of digital media in learning material development. Students are also interested in interactive media because the learning process becomes fun. Digital media such as Canva and Google Suite can develop students' competence (Pelangi & Jakarta, 2020). Students' competence on the subject matter is influenced by their interest in learning. Interactive media in classroom atmospheres can improve students' interest in learning (Fakhruddin *et al*., 2019; Usmeldi *et al*., 2017). The selection of the right techniques and media by the teacher will encourage the achievement of students' competence.

> *In my opinion, this activity is important to motivate teachers to use digital media in learning. Digital media will help and make it easier for teachers to teach in class. (Interview, Participant 3)*

The lecturers have provided training on the use of digital media in learning material development at the junior high school level. In addition, the speakers also taught basic learning materials through Canva and Google Suite applications. Based on the results of observations during the activity and interviews with participants, junior high school teachers participated in the training actively and enthusiastically. They are also willing to attend further training in the future. The purpose of this program can be achieved by increasing technology literacy and participant competences, especially on developing learning materials through technology. Further training activities can be carried out by increasing the number of participants and the scopes of training materials.

4. Conclusion

This program can strengthen teachers' competence in developing technology-mediated learning media at the junior high school level. This activity also benefits educators at the junior high school level. The results of questionnaires and interviews with community service participants indicate that technology based-media need to be used in learning to increase students' interest in face-to-face learning. This program is only limited to one school Technology-supported training programs for teachers need to be continuously held by increasing the diversity and number of participants from high school levels.

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