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TPACK-Based Learning Management Training at PEKERTI Batch 3, Bengkulu University in 2024

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Abstract

Most lecturers have difficulty adapting to technological advances, including in implementing the TPACK (Technological Pedagogical Content Knowledge) framework. Therefore, one solution is to hold training packaged in a program called the PEKERTI Program (Basic Instructional Engineering Skills Improvement). The 2024 Batch 3 PEKERTI program at Bengkulu University was implemented with the aim of training lecturers in carrying out TPACK-based learning management. This activity, which was held in January 2024, was attended by 39 lecturers. A closed questionnaire with 4 answer choices was used as a research tool. Descriptive statistical analysis is the data analysis method used. PEKERTI participants' answers to the implementation of the training were analyzed using data collected in the form of percentages which were the results of calculations using a modified Likert Scale. The research results show that 100% of respondents are in the Strongly Agree category based on the guidelines in table 4 of the Likert scale interpretation. Meanwhile, for the agree, disagree and strongly disagree categories, there were 0 respondents. So, it can be concluded that the TPACK-based learning management training for Pekerti Batch 3 in 2024 at Bengkulu University received a positive response from participants.

A. Introduction

Information and communication technology (ICT) has completely changed modern life, including schooling. A number of nations have embraced new technologies to establish top-notch learning settings (Himmetoglu et al., 2021; Schlomann et al., 2020; Wang et al., 2020). Using the TPACK (Technological Pedagogical Content Knowledge) framework is one way educators are attempting to stay up to date with technology. A framework called TPACK integrates the topic knowledge, pedagogy, and technology required of lecturers in the twenty-first century (Miguel-Revilla et al., 2020; Santos & Castro, 2021; Tondeur et al., 2020). In other words, lecturers must be able to utilize technology to ensure learning is in line with the progress of the 4.0 era. They must also build pedagogical skills and content for learning (Guillén-Gámez et al., 2021; Murkatik et al., 2020; Susanto et al., 2020).

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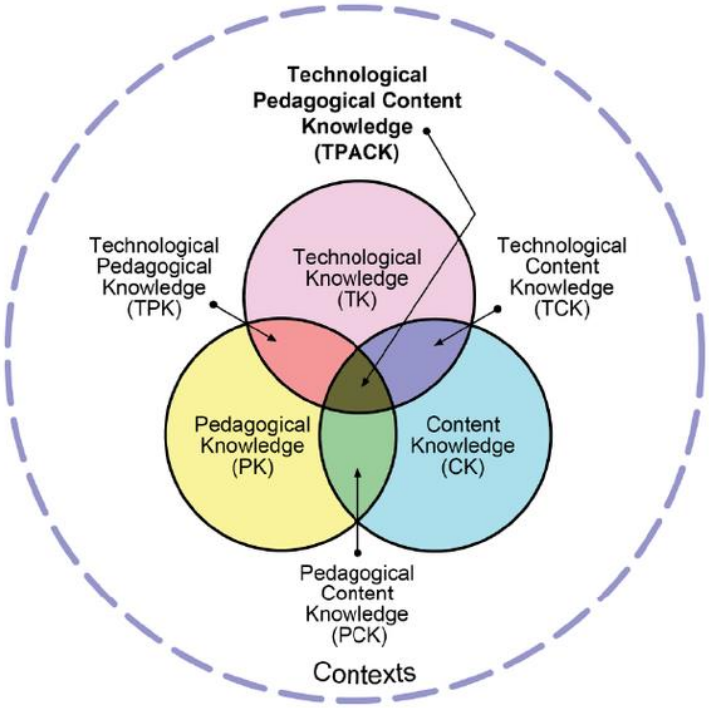

Figure 1. TPACK framework
Source: https://www.researchgate.net/

Conditions in the field show that lecturers involved in learning activities are not fully able to put themselves in the right position to carry out these tasks. Due to difficulties adapting to technological advances, only a few lecturers use technology-based media to improve teaching and learning activities.

Judging from the existing problems, solutions are needed that can help lecturers adapt to technological advances. One form of this solution is sustainable efforts such as training and mentoring activities. Training is an educational process carried out in a relatively short time using systematic mechanisms and procedures. The aim of training is to provide trainees with knowledge and expertise in specific machining techniques (Surani et al., 2020; Tamsuri, 2022; Wijaya et al., 2022). Currently, lecturers can obtain training by participating in the Basic Instructional Technique Skills Improvement (PEKERTI) program. PEKERTI is a program that was introduced because the government no longer issues Act V certificates for coaching and developing lecturers (Saroyo et al., 2020).

Based on the description above, TPACK-based Learning Management Training activities were carried out at Bengkulu University's 2024 Pekerti Batch 3.

B. Methods

Bengkulu University implemented the PEKERTI (Instructional Engineering Skills Improvement) Program Batch 3 in 2024, which taught 39 lecturers in TPACK-based learning management. Four answer choices on a closed questionnaire served as the study instrument. One method of data analysis is descriptive statistical analysis. The information gathered was utilized to examine how PEKERTI participants responded to the training's execution. This percentage is the result of computations made with a modified Likert scale. The quantitative values assigned to the instrument items are displayed in Table 1:

Table1. Likert Scale Calculation (Awwaliyah et al., 2021)

Evaluation	Scale Value
Strongly agree	4
Agree	3
Don't agree	2
Strongly Disagree	1

A quantitative analysis of the responses from PEKERTI participants was conducted using the following formula.

$$p = \frac{n}{N} \times 100\% \quad (1)$$

where n is the overall evaluation score, N is the highest possible score, and P is the percentage of questionnaire analysis results. The following table displays the score interpretation methodology for the Likert scale.

Table 2. Likert Scale Interpretation (Connie & Risdianto, 2023)

Percentage (%)	Category
0 % - 25 %	Strongly Disagree
26 % - 50 %	Don't agree
51 % - 75 %	Agree
76 % - 100 %	Strongly agree

C. Results and Discussion

A total of 39 lecturers have taken part in TPACK-based learning management training. Training participants fill out a response questionnaire to the training created via Google Form at the end of the training activity. This questionnaire consists of 19 items which are arranged in the form of positive statements regarding training activities. Figure 2 shows the results of the analysis of respondents' (training participants') answers based on the results of calculations using formula 1.

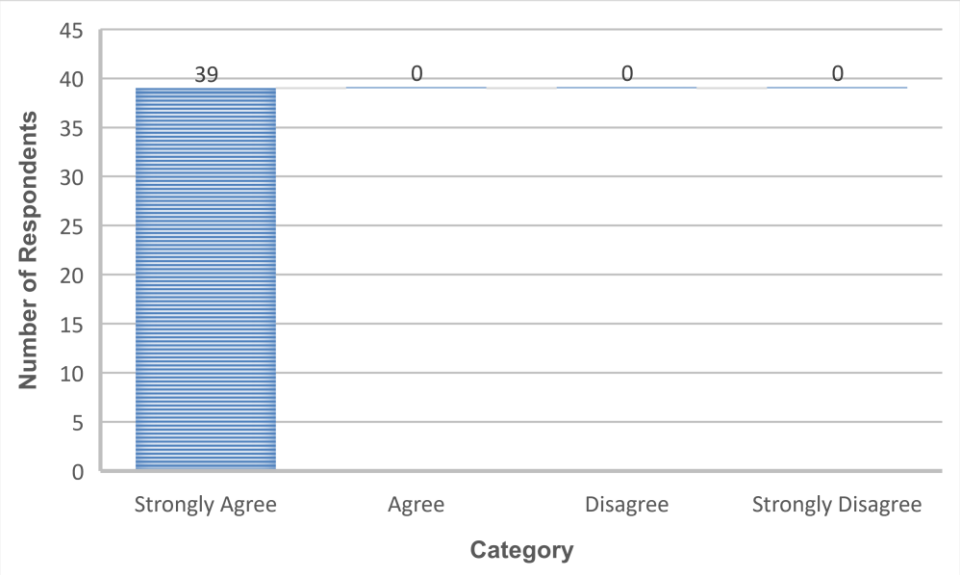

Figure 2. Results of Analysis of Training Participants' Responses

Figure 2 above illustrates that over half of the participants fell into the Strongly Agree category according to the rules provided in table 2 of the Likert scale interpretation. Neither strongly agree nor disagree was indicated by any of the responders. Put otherwise, the respondents to this study's questionnaire only indicated high agreement with the 19 affirmative statements regarding the PEKERTI batch 3 activities at Bengkulu University in 2024.

The information on TPACK-based learning management in Basic Instructional Techniques Skills Improvement Training (PEKERTI) activities is clear, easy to comprehend, and in line with the goals of PEKERTI, according to respondents or training participants. The presentation is easy to grasp because it is structured and employs techniques relevant to recent advancements. In addition, the hands-on exercises are clearly laid out and simple to follow.

Many new things regarding the TPACK-Based Learning Management content are taught through PEKERTI exercises. Furthermore, because special programming skills are not needed, the technology supporting the deployment of TPACK-based learning management is user-friendly.

With the use of TPACK-Based Learning Management materials, PEKERTI activities promote creativity in the learning process, improve digital literacy, and raise awareness of the value of technology in the modern world. They also help participants understand the significance of integrating technology and pedagogy in the creation of educational content and acquire new skills for using technology in the classroom to ensure that learning activities are successful and efficient.

With TPACK-Based Learning Management material, this PEKERTI activity supports the concept of modern education which emphasizes that teachers must be proficient in using technology in learning. Therefore, material such as this must be rehearsed to ensure the understanding gained is not forgotten. Therefore, having video tutorials is very helpful.

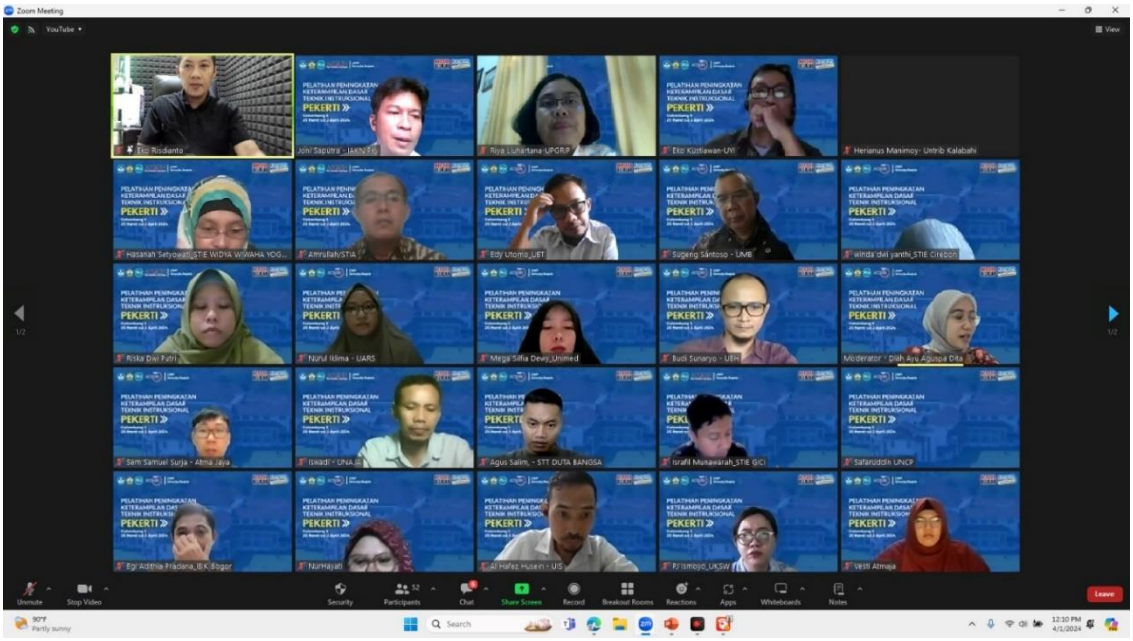

Figure 3. Documentation of Activities

D. Conclusion

There have been 39 participants in the TPACK-based learning management program for lecturers. Training participants complete a Google Form-based reaction questionnaire to the training at the conclusion of the activity. According to the analysis's findings, 19 affirmative statements about training exercises had responses in the highly agree range. This indicates that the TPACK-based learning management training activities used in the PEKERTI program were well received by respondents or training participants.

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