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Analysis of Responses to the Implementation of Online Training on Simple Media Materials Based on TPACK PEKERTI Batch 7 at Bengkulu University

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Abstract

This study aims to analyze the responses of PEKERTI participants batch 7 at Bengkulu University to implementation of online training on TPACK-based simple media materials. This type of research is survey research using quantitative research methods. The sample in this study were 51 lecturers from various universities in Indonesia. The study was conducted in October 2022. The data collection technique used a questionnaire so that the measuring instrument was a questionnaire made with a modified Likert scale with 4 answer choices, namely strongly agree, agree, disagree, and strongly disagree. The results showed that the respondents gave a positive response to implementation of online training on simple media materials based on TPACK PEKERTI Batch 7 at Bengkulu University.

Keywords: *online, simple media, tpack*

A. Introduction

Education is important in the development of the nation and state. Teachers and Lecturers are the spearhead in the world of education. For this reason, lecturers must continuously improve their basic skills, one of which is through training [1]. There is a training program designed by the Directorate General of Higher Education to improve pedagogic competence for lecturers, namely PEKERTI. PEKERTI is a Basic Skills Development Training for Instructional Techniques. This training is intended for Young Lecturers who are still in the early stages of carrying out Lectures in Higher Education.

Technological advances have penetrated the world of education, especially in terms of using the internet and digital tools such as computers, laptops, ipads, tablets, smartphones and others [2]. This affects all components of education, including training activities. Training activities that previously could only be done face-to-face, can now be done remotely using technology, so they are called online training [3].

In learning activities, a media is needed. Educational media are tools, methods and techniques used in order to make communication and interaction between educators and students more effective in the education and teaching process [4]. Basically there are many types and forms of media. There are several types of media, namely audio media, visual media, and audio visual media [5]. To maximize effective learning and training, it is necessary to combine three main aspects, namely technology, pedagogy and content knowledge which is expected to be one of the latest options which is often called TPACK (Technological, Pedagogical, and Content Knowledge) [6]–[8]. TPACK is the knowledge needed to integrate technology in learning [9], [10]. TPACK appears in line with technological developments in the field of education and learning so that in simple terms TPACK can be said to be a way of teaching certain content-based materials by using the most appropriate technology for the needs and preferences of students [11]. In addition, Koehler, Mishra and Cain (2013) in [12] said that the use of TPACK can help educators conduct research in the field of education and develop their professionalism.
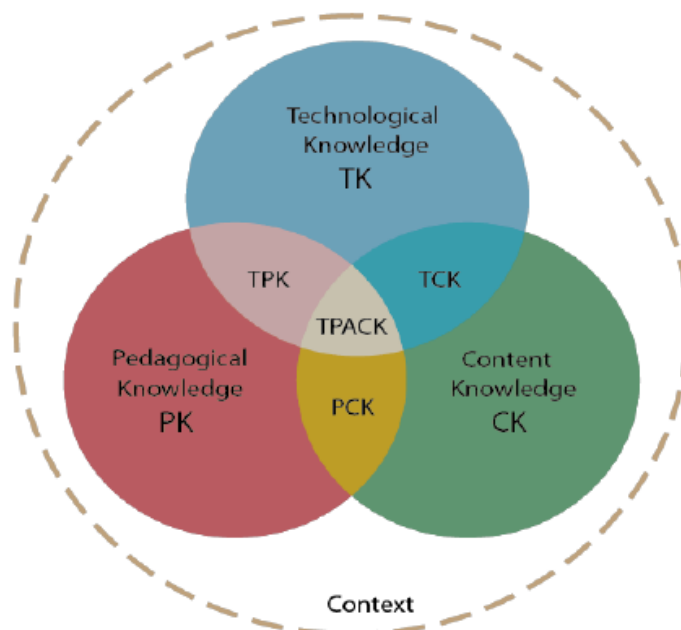
Figure 1. TPACK framework

Technological Knowledge (TK) is knowledge about skills in using technology, both hardware such as computers and software such as applications that support education; Pedagogical Knowledge (PK) is the ability to manage student learning; Content Knowledge (CK) is subject matter of knowledge such as knowledge of language, Mathematics, Natural Sciences, and others; Technological Content Knowledge (TCK) is the knowledge and ability of teachers or educators to use technology in making students understand the material being discussed in class; Pedagogical Content Knowledge (PCK) is the knowledge of teachers or educators related to formulating material so that it is easy to understand in class and also the ability of teachers to master the class and understand the character of their students; Technological Pedagogical Knowledge (TPK) is knowledge of using technology in learning by taking into account the pedagogic abilities of teachers or educators as well as being able to apply asynchronous discussions such as forums to support the social construction of knowledge; Technology Pedagogical And Content Knowledge (TPACK) is the knowledge that teachers or educators have skills in using technology, pedagogical abilities, mastery of materials or related to the professional competence of teachers or educators [13], [14].

Based on the description above, it is necessary for researchers to analyze the responses of PEKERTI participants Batch 7 at Bengkulu University to implementation of online training on TPACK-based simple media materials.

B. Research Methods

This type of research is survey research using quantitative research methods. The sample in this study were 51 lecturers from various universities in Indonesia. The study was conducted in October 2022. The data collection technique used a questionnaire so that the measuring instrument was a questionnaire made with a modified Likert scale with 4 answer choices, namely strongly agree, agree, disagree, and strongly disagree.Instrument items are given a quantitative value as shown in table 1 below:

Table 1. Scale Calculation Likert

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

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The questionnaire was tested for validity and reliability using SPSS with the following conditions: Valid if r_{count} is greater than r_{table} value ($r_{count}>r_{table}$), Invalid if r_{count} is less than r_{table} value ($r_{count}<r_{table}$), Reliable if Cronbach's Alpha value is greater than 0.6 and Unreliable if Cronbach's Alpha value is less than 0.6 [15].

The results of the questionnaire data (questionnaire) were processed using an excel application to obtain the percentage and category of each statement item listed in the questionnaire.

C. Results and Discussion

In this study, 51 respondents were asked to fill out a questionnaire consisting of 29 positive statements. Each item of the statement used in the questionnaire was tested for validity and reliability to determine whether the instrument was feasible or not suitable for use in obtaining the data needed by the researcher.

The results of the validity test of the student needs analysis questionnaire can be seen in the following table.

Table 2. Instrument Validity Test Results

No Item	r_{count}	r_{table}	Information
1	0.545002		Valid
2	0.619867		Valid
3	0.577702		Valid
4	0.733117		Valid
5	0.839303		Valid
6	0.68762		Valid
7	0.610585		Valid
8	0.709599		Valid
9	0.679369		Valid
10	0.610016		Valid
11	0.546903		Valid
12	0.782852		Valid
13	0.687774		Valid
14	0.748107		Valid
15	0.851931	0.2759	Valid
16	0.734352		Valid
17	0.858923		Valid
18	0.780585		Valid
19	0.537218		Valid
20	0.727055		Valid
21	0.69149		Valid
22	0.649318		Valid
23	0.769697		Valid
24	0.733117		Valid
25	0.720602		Valid
26	0.788427		Valid
27	0.694775		Valid
28	0.846486		Valid
29	0.793523		Valid

The table above shows that all items are categorized as valid, meaning that they can be used to collect data that is a variable in this study.

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Table 3. Instrument Reliability Test Results

Cronbach's Alpha	N of Items
.962	29

The table above shows that the instrument is categorized as reliable, meaning thatif this instrument is used in research activities with the same subject, it will show the same results, even though the implementation is in different times and conditions.

Table 4. Results of Filling Out Questionnaires by Respondents

Item Number	Information			
	Strongly agree	Agree	Disagree	Strongly Disagree
1	44	7	0	0
2	42	9	0	0
3	44	7	0	0
4	41	10	0	0
5	44	7	0	0
6	40	11	0	0
7	43	8	0	0
8	43	8	0	0
9	42	8	0	1
10	44	6	0	1
11	47	4	0	0
12	42	8	1	0
13	42	8	0	1
14	37	12	1	1
15	43	8	0	0
16	43	8	0	0
17	44	7	0	0
18	43	7	1	0
19	42	9	0	0
20	42	8	1	0
21	36	15	0	0
22	40	11	0	0
23	40	11	0	0
24	41	10	0	0
25	36	14	0	1
26	40	10	1	0
27	38	11	1	1
28	41	10	0	0
29	44	7	0	0

Vol 1 No 1 tahun (13-18)

E-ISSN: 2963-1963

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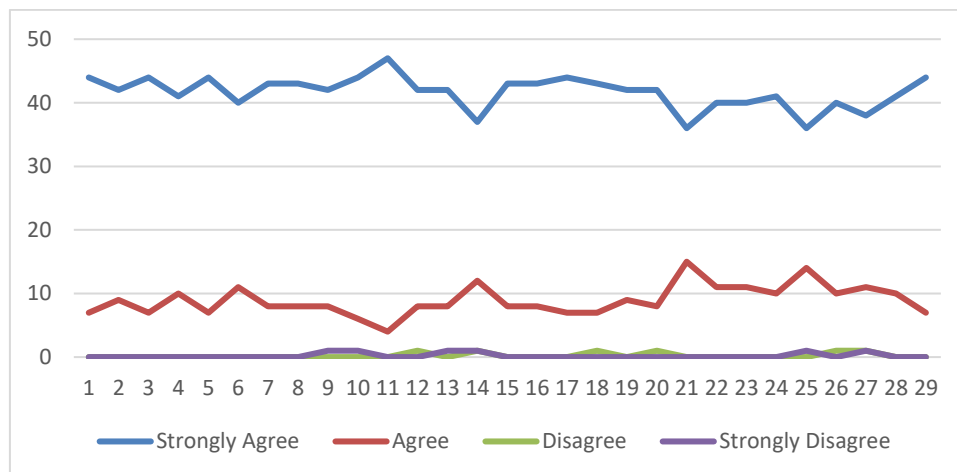
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Figure 2. The Draft of the Results of Filling Out Questionnaires by Respondents

From the data above, it can be seen that 29 positive statements distributed to 51 respondents received the most answers on the answer choices strongly agree. It shows that the respondent's response is relatedimplementation of online training on simple media materials based on TPACK PEKERTI batch 7 at Bengkulu Universityaccording to what was predicted by the researcher which was then poured into a questionnaire to be filled in by the respondent.

The results of the study explain that the learning method through the TPACK approach uses several ICT applications delivered by the instructor and the Trello Project management application is interesting to be applied in assisting the delivery of material in class. Besides that, it can also make respondents more enthusiastic in implementing PBM, so that respondents are interested in applying the approaches and learning methods that have been given by the instructor to manage the courses they teach on the campus where they teach.

Respondents believe that the learning process and the tasks given through this Trello-assisted training activity can make students more responsible in doing the assigned tasks. In addition, students will also feel more valued and enthusiastic in doing the assigned tasks if the lecturer provides rewards/awards/feedback to students and students will work on assignments or projects on time if the process of involvement in learning occurs optimally.

Teaching and learning activities with the TPACK approach using the Trello Project management application and several applications provided during the training can bring up the character values of discipline, independence, respect for achievement, creativity, hard work and tolerance. The learning method with the TPACK approach using the Trello Project management application also led to the application of behavioristic learning theory (stimulus response), cognitive learning theory, constructivism learning theory, and humanistic learning theory.

Another advantage of using the Trello application is that it makes it easier to monitor learning which can then make lecturers and students feel closer and interactive (engagement occurs) and in evaluating the learning process in class it is easier because with Trello lecturers can see the history of activities carried out so that it will be easier for lecturers in assessment process.

Based on the answers given by the respondents, it shows that the respondents gave a positive response to theimplementation of online training on simple media materials based on TPACK PEKERTI Batch 7 at Bengkulu University.

D. Conclusion

The research was conducted by asking 51 lecturers from various universities in Indonesia to respond toimplementation of online training on simple media materials based on TPACK PEKERTI Batch 7 at Bengkulu University. The results show that the respondents gave a positive response toimplementation of online training on simple media materials based on TPACK PEKERTI Batch 7 at Bengkulu University.

E. Acknowledgement

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