Multimedia Presentation Development Training for Vocational School Teachers

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Abstract. The results of the evaluation of multimedia development training activities for two consecutive years indicate that there is a need for multimedia development training for student learning when learning online. This article presents the results of training activities for developing multimedia presentations (Video PPT slides) for teachers in vocational high schools, both from the responses of the trained teachers as well as the products produced. The training activities were developed using the McArdle model and the measurement of the success of the activities using the three stages of the Kirkpatrik-Kirkpatrick model. The teachers who participated in the activities were normative, adaptive and productive teachers who received assignments from the principal. The teacher's response is positive to the implementation of the activities and requires other training for professional development. While the products that are trained to be developed, overall the teacher is able to develop them independently. Although only more than half of the products developed by teachers are of good quality for learning.

Keywords: Video PPT Slides · Virtual Lectures · PowerPoint

1 Introduction

PowerPoint is a software developed by Microsoft since the mid 1980's with the beginning of graphics software introduced and used by users. This software is used by users as a producer of presentation media and media that provides instructor presentations to deliver material. It cannot be separated from several aspects of human activities using it both public and private [1].

In the field of education, presentation media developed by teachers are important and are used during the teaching and learning process [2]. Students' perspective shows that PowerPoint makes them attend class, because it is interesting, practical and available [3]. In addition, when displayed on a classroom projector screen, it can trigger the visual senses [4] and sometimes students' audio [5]. Teachers find it helpful when managing the presentation of the material to make it more efficient and students are able to understand better [6].

Jones research [7] found that the use of powerpoint presentation media has its advantages and disadvantages and must be considered by teachers when developing it. Empirical evidence has been revealed through experimental research from 2000 until now that powerpoint presentation media is able to outperform traditional classrooms in EFL learning [8, 9].

Multimedia PowerPoint presentation (hereinafter referred to as MMP) is an important instrument to be used in the teaching and learning process [2]. According to Craig & Amernic [3], students enjoy attending classes with MMP because it is interesting, practical, and available. Correspondingly, Shyamlle and Phil [4] stated that MMP triggers students' visual and sometimes audio senses when displayed through a projector from a computer screen in the classroom [5]. Oommen [6] adds that presentation helps teachers to organize their teaching delivery more efficiently so that students gain better understanding. Therefore, it is challenging that the utilization of MMP will be beneficial for teachers and students [10] in learning English [11, 12] to activate the four language skills [13]. This is because MMP facilitates the learning process to be more interesting with clearer and structured learning in a manageable time [3, 6, 14] and not only to keep students busy [4, 15]. It can facilitate class with games, drill & practice [16], to review material, and to present student projects [1, 6].

MMP's contribution to education provides considerable benefits, however, there are drawbacks as it takes time to prepare. Taylor adds that oversimplification is possible when covering very large materials [17]. This can manipulate students' understanding [18] to make students passive and avoid taking part in class [19], especially when teachers are too busy with materials and tools, ignoring students [17]. Apart from the positive and negative points, students' point of view on using PowerPoint presentations in class is meaningful [20] in establishing significant developments in the learning process [21] to reflect and evaluate teaching performance [22].

PowerPoint presentation media has been widely used by teachers in delivering their learning. Limited interviews of 27 teachers (working period > 10 years) who were randomly selected said that more than 15 powerpoint files had been developed based on their subjects. In general, the presentation media is presented through the lecture method.

The ongoing COVID-19 pandemic has stopped teaching and learning activities in classes above the government's ban to avoid social contact. Learning from home is a suggestion and recommendation from the government so that education does not stop. The presentation media that was originally used in class, was eventually used online. The uses also vary, ranging from lectures with presentation media with online meeting applications (zoom, google meet, etc.) to just sending files without an explanation.

Research on multimedia presentations [23] with participants watching a lecturer's lecture which is slide synchronized or there is no video that includes slides but only the lecturer's audio narration. The finding is that there is no significant difference between synchronized videos with slides and the absence of video or only in the form of narration. In line with these findings [24] inserting the teacher's face into the learning video does not affect learning outcomes. However, it shows that teaching lectures with videoed slides need to be carried out by teachers. This result is different from other findings which state that PPT slides with the teacher's face significantly affect learning outcomes

[25, 26]. Another finding showed that the use of multimedia presentations obtained a medium score for all fields of study related to the preferred style when using video for learning [27].

The explanation above shows that learning videos with PPT slides need to be done by teachers. In addition to providing solutions for providing individual learning resources, there is also an online learning mode. However, the results of the needs analysis show that teachers have many presentation media but do not have the skills to convert them into PPT slide-based learning videos. In addition, some teachers already have the video but use paid software. The teacher does not yet know the Microsoft PowerPoint feature to convert PPT slide files into videos accompanied by lectures explaining the material. In their imagination developing PPT slide-based video presentations is difficult for older teachers.

Based on the problems revealed, it is necessary to have training to develop PowerPoint presentation media into multimedia PPT slide presentations that are synchronized with the teacher's explanation. The training has been carried out for four times face to face with meetings once a week. The purpose of this article is to describe the results of the implementation of the multimedia presentation development training, especially for vocational school teachers. This is important to do to fill in the gaps in training reports that have been held for both PAUD teachers [28], Mathematics MGMP [29], as well as elementary school teachers [30].

2 Methods

The training design was developed by adopting the McArdle model [31] which consists of justification of the target business areas, analysis, design, development, implementation and evaluation. These components are distributed in three stages, namely pre-implementation, implementation and post-implementation. Each stage is carried out in a structured and systematic manner to obtain the expected results.

Pre-implementation is the first stage with justification of target areas and needs analysis. Field data were obtained directly through interviews and mutual agreement. After that, the results of the needs analysis are needed to prepare the design and development of the training.

The next stage is carried out after the results of the design and development of the training have been determined. Implementation of activities is the second stage which includes preparing training programs, organizing presentations, and managing audiences.

The final stage of the activity is evaluating the implementation of training activities. This activity is needed to measure the effectiveness of the program by adopting the evaluation model of Kirkpatrick & Kirkpatrick [32]. This model proposes four levels, namely learner reaction, learning, transfer of training and organizational impact. For the evaluation of this training activity, only the initial three levels were applied and did not carry out the final level. This is because the activity does not directly measure the impact on an organizational basis, considering that the training provider is from outside the institution. Data collection is based on survey questionnaires arranged according to the needs of the level of evaluation and filling it out at the beginning and end of training activities.

The target participants for the training are all teachers in SMKN 5 Malang. Teachers who follow are teachers from various categories, both from normative, adaptive and productive. Participation in training is based on interests and assignments from the principal. Based on this, a total of 27 teachers participated in the training program.

3   Result and Discussion

The majority of the training participants were 21 people (77.8%), while the number of men was 6 (22.2%). The teachers are aged between 30–57 years with teaching experience ranging from 0–30 years. The majority are teachers aged between 30–35 years, and with the most tenure between 0–5 years. The teachers who participated in the most training were normative teachers (54%) and the most subject teachers (53.8%) were Guidance Counseling. Mathematics teachers became the most trainees of the adaptive teacher type (45.5%). Meanwhile, the most productive teachers who participated in the training were the fashion teachers (80%).

The training is held every Friday on 7, 14, 21, and 28 October 2022 with an allocation of 8 lesson hours (JP) per day, so the total training time is 32 JP. Each meeting of the training participants received multimedia theoretical presentation material and also received technical guidance and assistance related to developing their products.

The training materials are prepared based on the initial knowledge and abilities of the trainees. The first day's material was about multimedia presentation theory as a learning resource when students study from home (BDR). Furthermore, training and technical assistance related to the development of presentations, both designing scripts or storyboards as well as presentations using Ms PowerPoint. The material on the second day introduced the features of the Ms PowerPoint software which is capable of recording during the presentation. For those whose software does not support this feature, alternative software or services are offered for the recording process. The material on the third day was that the training participants developed presentation multimedia products independently and assisted during the training in distributing them to students. The material for the fourth day was product exposure that was successfully developed by the training participants and reflection on the implementation of the training.

The training is enriched with self-developed resources as well as from the Internet. These resources are development tutorials and examples of presentation multimedia products developed independently by the team. In addition, it is also enriched with tutorial screencasts and product samples on Youtube. A guidebook for the product development process has also been sent by the community service team through the What'sApp Group (WAG) training participants. All learning resources in the context of training have been sent before the implementation of the activity begins.

The impressions of the teachers during the training are presented in the pie chart Fig. 1. The most responses (18 people/66.7%) were participants were satisfied with the activity. While the participants who felt very satisfied were only 9 people or 33.3%.

The presentation of material or technical training by the presenters or trainers according to the participants was very good with the acquisition of 70.4% or 19 people. While the participants who responded well were only 29.6% or 8 people. All participants' responses to the ability of the presenters or trainers are presented in Fig. 2.
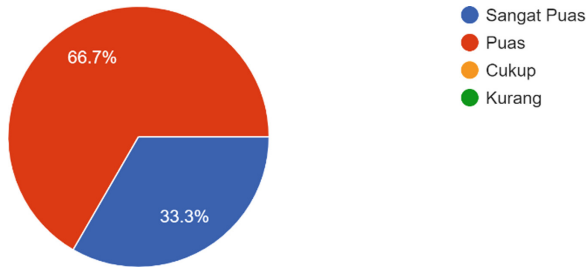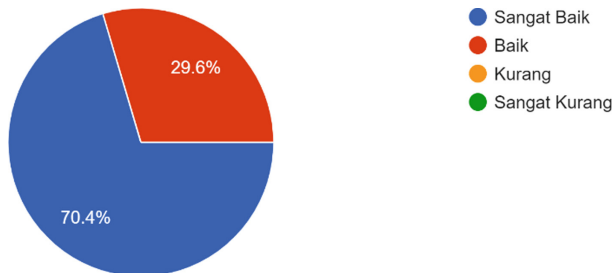
Fig. 1. Pie chart of trainee satisfaction level

Fig. 2. The ability of the trainer or presenter according to the training participants
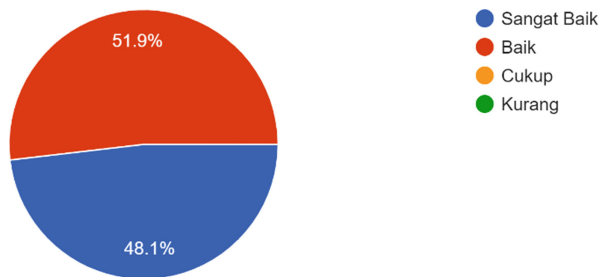

Fig. 3. The ability of the community service team to manage activities

The ability of the implementing team in managing and conditioning the situation of training activities received very good responses as many as 12 people (46%) and good responses as many as 14 people (54%). This can be interpreted that the reflection of the activities held received a positive response from the training participants. Figure 3 presents a pie chart of participants' responses to the management of activities.

Figure 4 presents participants' responses to the need for future training activities. In general, the training participants thought that this training needed to be re-organized in the future. This need was strengthened by the response of participants who responded very urgently as many as 16 people or 59.3%, while the response needed was only 40.7% or 11 people. This response can be interpreted that participants are satisfied with

the activities organized by the team and hope that there will be similar activities in the future.

All participants were 100% successful in developing presentation multimedia products independently. The product developed by the participants becomes the benchmark for the second level of the evaluation process, namely learning. In general, participants reformat the presentation files that have been developed and transformed into PPT videos or multimedia presentations. This finding is not different from other findings on the same training but teachers at different educational levels [28–30].

Transfer of training is the third level of the evaluation process that measures trainees' acceptance and application of new skills. This can be interpreted through behavioral changes in creating quality multimedia presentations. The quality that is used as a reference in product assessment is the quality of presentation multimedia products and the application of learning multimedia design principles according to Mayer [33]. There are 10 principles of learning multimedia design, namely the principle of multimedia, spatial continuity, temporal continuity, coherence, redundancy, modality, interactivity, personalization, signalization and pre-training. The product is assessed by an undergraduate student and two masters students who have taken the Multimedia Learning Development Course. The total score of the three raters is the average of the two assessment criteria. Table 1 presents the results of the quality categorization of presentation multimedia products that have been developed by the training participants.

Multimedia presentations developed by the training participants were categorized as very good as many as 4 people or 14.8%. This can be interpreted that the teacher in addition to developing the existing presentation media also modifies and adapts it to the material from the training results. The most categories are teachers who develop with quite good quality, namely 11 people (40.8%). This can be interpreted that the product
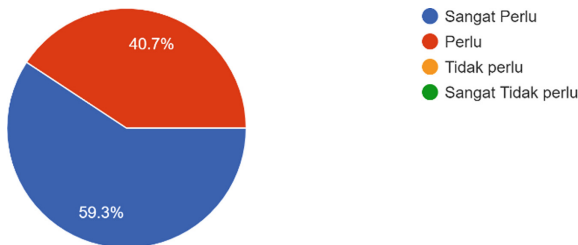

Fig. 4. Future training needs for teachers

Table 1. Presentation multimedia product rating

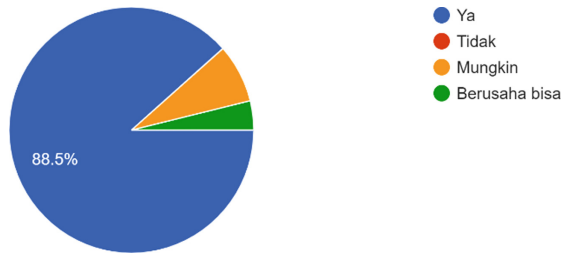| Quality	Score	N	%
Very Good	≥80	4	14,8
Good	≥60	6	22,2
Quiet Good	≥40	11	40,8
Bad	<40	6	22,2

Fig. 5. Teacher's believe to develop multimedia independently

of the presentation media underwent an insignificant modification. Nevertheless 37% or 10 people develop multimedia with good category.

The third level of the evaluation process is to obtain data on the responses of the trainees in developing their own multimedia presentation products. This also shows that the teachers have high confidence when developing the product. Figure 5 shows a pie chart of the teacher's belief responses in developing multimedia presentation products independently. This belief is represented by the teacher's response of 88.5% stating that they are able to develop multimedia independently.

4   Conclusion

All sessions of training activities were smooth and in accordance with what was required by the teacher. All the teachers gave the impression of being satisfied with the activity. The trainees responded positively to the implementation of the training at the first level of the Kirkpatrick & Kirkpatrick model. The second level of evaluation shows that the product was successfully developed independently by all training participants. Transfer training is the third level of evaluation which gives the result that the trainees have the confidence to be able to develop quality presentation multimedia products independently. There were several obstacles during the activities. The laptop they use has Ms PowerPoint installed but the old version, so the screen recording feature (screencast) does not exist. To complete the presentation of multimedia products, the laptop/computer used is not personal but belongs to one of his family members. Meanwhile, the hardware problem only happened to the trainees when recording, that was, they did not use a headset, so that the teacher's narration in explaining the material sounded small. For this reason, it is recommended that in product development training involving computers, the organizers must first check the readiness of the participants' hardware and software.

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