



Elementary School Teacher Competency Development in Creating Digital Learning Media Anchor App Based

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Abstract

The industrial revolution that is happening in this era requires teachers to always and constantly adapt to technological developments. The use of ICT in learning activities has an important role, especially during the current COVID-19 pandemic. The condition of distance learning creates problems for teachers. The lack of teacher skills in developing digital learning media makes teachers less innovative in making learning media. Even though there are currently many online-based applications that provide various features that can be used to create interesting learning media. Online learning media is a learning media that is in accordance with the characteristics of the current digital generation. For this reason, teachers need to equip themselves with digital literacy skills. This study aims to develop the ability of elementary school teachers to innovate in creating Anchor application-based learning media. The research design used is action research. Participants consisted of 100 teachers from districts and cities in West Java, teachers from DKI Jakarta, and the City of Yogyakarta, Indonesia. The results show that the teacher is able to complete the task of making anchor application-based learning media. This shows that they are able to develop their digital literacy skills in learning. Teachers can easily create learning media in the form of podcasts, using the anchor application. It can be concluded that structured and controlled training and mentoring can develop the skills and innovations of elementary school teachers in creating digital learning media. The research design used is action research. Participants consisted of 100 teachers from districts and cities in West Java, teachers from DKI Jakarta, and the City of Yogyakarta, Indonesia. The results show that the teacher is able to complete the task of making anchor application-based learning media. This shows that they are able to develop their digital literacy skills in learning. Teachers can easily create learning media in the form of podcasts, using the anchor application. It can be concluded that structured and controlled training and mentoring can develop the skills and innovations of elementary school teachers in creating digital learning media. The results show that the teacher is able to complete the task of making anchor application-based learning media. This shows that they are able to develop their digital literacy skills in learning. Teachers can easily create learning media in the form of podcasts, using the anchor application. It can be concluded that structured and controlled training and mentoring can develop the skills and innovations of elementary school teachers in creating digital learning media. The results show that the teacher is able to complete the task of making anchor application-based learning media. This shows that they are able to develop their digital literacy skills in learning. Teachers can easily create learning media in the form of podcasts, using the anchor application. It can be concluded that structured and controlled training and mentoring can develop the skills and innovations of elementary school teachers in creating digital learning media.

Keywords: teacher competence; digital learning media; digital literacy teacher; teacher innovation.

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The industrial revolution that is taking place in this era requires teachers to always and constantly adapt to technological developments. The use of ICT in learning activities has an important role, especially during the current COVID-19 pandemic. The condition of distance learning creates problems for teachers. The lack of teacher skills in developing digital learning media makes teachers less innovative in making learning media. Even though there are currently many online-based applications that provide various features that can be used to create interesting learning media. Online learning media is a learning media that is in accordance with the characteristics of the current digital generation. For this reason, teachers need to equip themselves with digital literacy skills. This study aims to develop the

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PRELIMINARY

In online learning activities, assignments and task corrections are more often done than material delivery (Waspodu, 2020; Ministry of Trade simlitbang, 2020). This condition has made students bored in undergoing PJJ (FSGI, 2020). To overcome these conditions, teachers should learn various technologies that can be used to streamline PJJ activities, so that students are motivated to participate in learning activities. Teachers should have skills in making learning media that can increase students' learning motivation.

If you quote the Decree of the Minister of Education Number 22 of 2016 concerning Standards for Primary and Secondary Education, Information and Communication Technology must be applied in an integrated, systematic, and effective manner by taking into account the conditions and situations in the field (Permendikbud RI 2016 No 22). So in this pandemic condition, the use of ICT has an important role in learning activities. Indirectly, this has been in line with global demands (Fraillon et al., 2014).

In addition to sources sourced from textbooks, print and electronic media, nature in the environment, or other relevant learning resources (Permendikbud RI 2016 No. 22), digital literacy-based learning resources are important to apply in this era, because they are able to present learning materials contextually, visually, and audiovisually in an interesting and interactive way (Setyaningsih & Prihantoro, 2012). To answer these challenges, teachers need to have innovation and creativity in the learning process that utilizes the use of digital technology in the learning process. ICT professional development courses for teachers can help teachers improve their ICT skills and knowledge (Abuhmaid, 2011). Thus, in addition to being able in the scientific field,

ICT also allows teachers to adapt material based on the circumstances and needs of students (Lubis, 2018). Teachers who are able to manage ICT well will become better communicators and are able to create interesting and fun learning activities, encourage student independence, and increase student motivation (Oyarzo, 2011; Al-Munawwarah, 2014). However, based on a survey conducted at the preliminary study stage, out of 100 elementary school teachers who filled out the questionnaire, it was found that only 14% of teachers felt they were very capable in creating learning products by utilizing digital technology. 28% of teachers have never used PPT in their online learning activities, 35% have never used YouTube, 48% have never used explainer videos, and 64% have never used podcasts.

Podcasts are the most foreign learning media for teachers. Even though podcasts are one of the popular audio learning media in various fields of education, especially medical education, because they can be a valuable supplement to traditional teaching methods, and can disseminate information to a wider audience. (Young et al., 2021). When studying online, constant reading and writing can keep students isolated from human voices (Forbes et al., 2015), so that podcasts can be used as an audio media innovation.

Students can listen to podcasts anytime and anywhere, and can access them via cellphone, ipad, tab or computer. The ease of use of podcasts is a huge advantage for the learning process (O'Bannon et al., 2011). Based on the research results, students tend to like podcasts rather than reading material on the blackboard or books, besides that the duration of podcasts is considered quite effective for learning (O'Bannon et al., 2011). The drawback of audio podcasts is that students have to think abstractly. However, the shortcomings of a technology-based media

can only be corrected and anticipated through critical thinking (Diglin, 2014). Thus, it is critical thinking and teacher creativity that can maximize the function of this media.

Currently, there are many free applications that can be used by teachers in making interesting learning media. The anchor application is one of the free applications that teachers can use in making podcast audio media. Based on what has been described, the training on digital learning development in Elementary Schools based on the anchor application is considered to be able to provide one solution to answer the difficulties of elementary school teachers in carrying out learning activities, especially during the current pandemic.

RESEARCH METHODS

This research leads to action research. This study begins by collecting information from the participants. Then the participants, in this case the trainees, were trained to improve their understanding and skills in developing digital learning media. In action research, collaboration is an important point that must be made for making agreement on problems, decision making which ultimately gives birth to common actions (Creswell, 2002; Leeman et al., 2018). To fulfill this, this research activity is socialized before the researcher determines what application will be trained. The condition of online learning and the unfamiliarity of learning media in the form of podcasts were the reasons for offering training, until finally the collaborators, in this case elementary school teachers, wanted to join.

This research has three stages, the first is the pre-action stage, the action stage, and the post-action stage. The pre-action stage consists of a survey and the initial stage of data collection. This survey was distributed to participants prior to the training activities. The next stage, which is resistant to action, includes training and assistance in developing digital learning media based on anchor applications. In this stage, participants are first introduced to a variety of applications that can be used to create digital learning media, then proceed with designing a learning object development flow, creating a media

development flow starting from the pre-production, production and post-production stages. The last stage is the post-action stage consisting of surveys and evaluations. The survey was conducted using a google form containing several open and closed questions.

With the rise of online training during the pandemic, it is also possible for this training activity to be carried out online. So that after being socialized through social media such as Whatsapp, Instagram, and Facebook, there were many positive responses from teachers outside the city of Bandung. Therefore, the participants in this training activity consisted of teachers from Kota and Kab. Bandung, City and District. Bekasi, city and district. Bogor, Kab. Garut, Pangandaran, Cirebon, Karawang, Subang, Sumedang, Depok, Tasikmalaya, Indramayu, DKI Jakarta, Yogyakarta City, Pangkalpinang, and Banjar City. The training was carried out through a Zoom meeting and continued with mentoring through a WhatsApp group.

The participants of this training program are 100 elementary school teachers consisting of 79.6% female teachers and 20.4% male teachers. Based on the survey results, the youngest age who participated in the training was 21 years old, and the oldest age who attended the training was 54 years old. However, the trainees were dominated by teachers with an age range of 30-40 years. 46.5% of the training participants were elementary school teachers with more than 10 years of teaching experience. Based on the survey results, 97% of elementary school teachers have used digital applications in their learning, and the whatsapp application is the application that is most often used by 66% of teachers. Furthermore, based on the survey results 64.6% of teachers have never used learning media in the form of podcasts.

RESULTS AND DISCUSSION

Research related to the development of digital media was passed through three stages, the first was the pre-action stage, the action stage, and the post-action stage. The results of the analysis of each stage are as follows.

Pre-action Analysis

At this stage, participants fill out a pre-action survey to identify their knowledge and skills in using and developing digital learning media in elementary schools. Based on the survey results, information was obtained regarding the use of digital technology in learning and the digital competence of elementary school teachers. Figure 1 shows that 97% of teachers already use digital media in online learning activities. In Figure 2 it can be seen that the application most frequently used by teachers is the WhatsApp application as much as 66.6%, the remaining 17% of teachers say they use Google Classroom, 12% of teachers say they use synchronous applications such as Zoom and Google Meet, 2% say they use both. 1% said they used telegram, and the other 1% used google forms.

Image 1
(Utilization of digital technology in online learning by elementary school teachers)

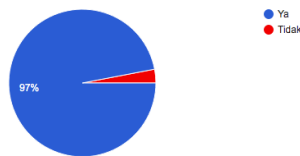
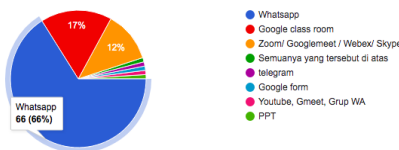
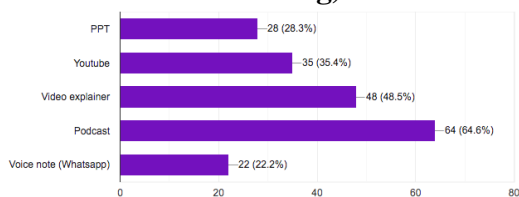


Figure 2
(Applications most often used by teachers in online learning)



In Figure 3 it can be seen that teachers are less innovative in making learning media, so they only use simple learning media such as PPT and voice notes.

Figure 3
(Learning media that have never been used in online learning)



The lack of innovation in the media used in online learning can be seen from the lower percentage of PPT and Voice notes compared

to other media percentages. This means that more teachers have used these learning media, because only 28% of teachers stated that they had never used PPT, and 22% of teachers had never used voice notes.

For youtube learning media, 35% of teachers have never used it in learning. However, based on the results of interviews, YouTube videos used in learning still use videos uploaded by other people, not videos made by themselves. Furthermore, 48% of teachers have never used media in the form of explainer videos, and 64.4% of teachers have never used learning media in the form of podcasts.

The results of the next survey are related to the digital literacy skills of teachers in making digital learning media. Based on the survey results obtained the following data

Table 1
Teachers' digital literacy skills in creating digital learning media

Statement	Strongly agree	Agree	Disagree	Don't agree
I have the ability to operate a computer	27	69	4	
I have internet skills	22	71	6	
I am able to create learning products by utilizing digital technology	14	71	13	2
I have skills in making learning videos	13	70	16	1
I have skills in making PPT	26	70	4	
I have skill in making Podcast media	3	26	55	16
I understand the Learning Objectives development flow	2	50	43	4
I understand the flow of digital-based learning media development	6	65	27	2

Based on table 1, most of the teachers already have good digital literacy in making learning media. 69 teachers have agreed that they have the ability to use computers, 71 teachers agree that they have the ability to use the internet and create learning products by utilizing digital technology. 70 teachers have agreed that they have the ability to make explanatory videos and PPT.

The survey results also show the fact that 26 people agree that they have the ability to create podcasts, so it can be interpreted that they are familiar with podcasts before the training. However, 55 others stated that they did not agree and 16 others stated that they did not agree. Furthermore, only 2 teachers stated that they strongly agreed that they had understood the flow of learning objectives development and 6 out of 100 people stated strongly that they understood the development flow of digital media creation. The results of the survey that have been described above, the researchers used as a reference in designing the action stage.

Action stage

This stage begins with the provision of material. In this activity, the teacher is given an explanation of the flow of learning object development to determine the appropriate learning media with Basic Competencies, Indicators and learning objectives. In addition, teachers also get information about the flow of learning media development and how to make story boards. Furthermore, based on the results of the pre-action analysis, in this action stage the teacher is also given an explanation of various online applications that teachers can use to create interesting learning media, such as the animaker, canva and powtoon applications, and anchors.

Although the training activities were focused on making podcast learning media based on anchor applications, in training activities, teachers also received information about the steps in making learning media based on animaker, canva and powtoon applications. This was done, because it was based on the results of the pre-action analysis which showed that only 13 out of 100 teachers agreed that they had skills in making

learning videos, and only 26 out of 100 teachers stated strongly agree that they have the ability to make PPT. So that these applications can be used to improve teacher skills in making interesting learning video and PPT media.

The next activity, the teacher is divided into two breakoutrooms to be given training and assistance in making learning media based on anchor applications. The activity begins with the pre-production stage, then continues with the production and post-production stages.

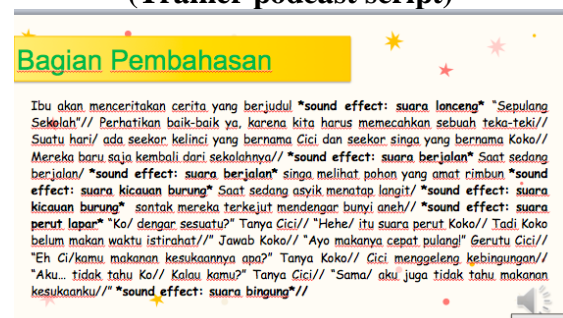
1. Pre-production stage

The pre-production stage begins with an explanation of the selection of materials that are suitable for podcast media, makes notes on the tools and materials to be used, then continues with listening to an explanation of things that must be considered in making a podcast. And how to write a script for a podcast.

2. Production Stage

Before starting the production stage, participants must download the anchor application first. The production activity begins with making a learning objective development flow to determine the learning materials that will be made into learning media in the form of podcasts. At this stage, the participants begin to determine the learning material and then proceed with making a podcast script. The structure of the manuscript consists of an introduction, core and closing. Next, the researcher asked the participants to provide punctuation symbols such as / for commas and // for periods. As well as providing information on where the music will be played and what sound effects are needed. The following is an example of a script that has been made by the trainees.

Figure 4
(Trainer podcast script)



After having the complete script, participants looked for music for the podcast's background and sound effects to strengthen the content of the material. After everything is ready, participants make voice recordings by paying attention to the punctuation marks that have been made. In the final stage of production, participants provide background music for their podcast and save the recorded file in the draft application anchor before publishing it.

3. Pre-production stage

In the pre-production stage, participants have to do Editing and Mastering like add transitions, task backgrounds, sound effects, import voice messages, and group chats. After that, the participants publish the podcast media that he has created, by uploading the podcast on the intended platform, such as anchor or spotify. After the podcast has been successfully uploaded, the next step is that participants must send their podcast link to the research team.

Hold Post Action

Based on the product links for podcast learning media provided by participants, it appears that participants can already use the anchor application easily and produce interesting podcasts. The researcher asked the participants' representatives to listen to the results of the products they had made in each breakout room. Then do reflection and evaluation together. From the results of reflection, there are still some participants who are still having difficulties, so they need to be given assistance. Assistance is also provided to improve the product of the participants. Participants must revise their products based on input from instructors and peers.

The post-action stage ends with reflection through questions and statements given to participants via google form. These statements and questions also serve as a survey of the level of participant satisfaction and the success of the training activities.

Based on the survey results, participants stated that they gained a lot of new knowledge and skills. Learning media in the form of podcasts with anchor applications add variety to teachers in making learning media for lower classes. The anchor application-based podcast media is also considered easy to use and can attract students' attention to learn.

Discussion

At the end of the activity, participants are able to create podcast learning media that can be used in teaching. This means that participants are able to complete the product well. Based on the results of interviews, participants stated "Podcast learning media is an interesting medium to apply", "learning media such as podcasts will help the learning process and attract students' interest in online learning". Another participant said "the anchor application is quite easy to use, and can simplify the student learning process because it can be listened to anytime and anywhere". This is in line with the results of research by O'Bannon et al which states that students tend to like podcasts because the duration of podcasts is considered quite effective for learning, and makes it easier for students to do learning anywhere and anytime. (O'Bannon et al., 2011)

Several participants stated that, thanks to this training activity, participants only learned about applications that can be used to create interesting learning media. And they realize that nowadays technology has made it easier for teachers to create learning media. These statements indicate that teachers have understood the benefits of digital technology in learning. ICT has changed the way children learn (Moreno-Morilla et al., 2021) Thus, teachers need to equip themselves with ICT skills.

Learning media is a basic thing in learning activities in elementary school. But in reality, not all teachers have the skills to create digital-based learning media. Training on the use of technology, especially applications that are easy to use and free of charge, is one solution in developing learning media. Through technology, teachers can

overcome the limitations of learning media by creating learning media that are innovative, creative and can attract students' attention.

In this study, the teachers were trained through the steps of making learning media in a structured and controlled manner. The results of the study indicate a change in the ability of teachers to develop digital learning media. This can be seen from the survey results in the pre-action and post-action stages, where there was an increase from 2% of teachers who really understood the flow of learning object development, 50.5% understood and 43.3% did not understand. After taking the action, 17% of teachers really understand, 60% understand, and there are still 20% of teachers who don't understand. After an in-depth study, information was found that the teacher's obstacles in understanding the flow of developing learning objects, namely in adapting learning materials to the media to be made, The teacher is not free in determining the learning media that will be used because he thinks about the ease of making or using it by students. Indeed, if these concerns are responded to positively, they will affect teaching practice, helping them to define problems and develop the best solutions for everyday situations in their classrooms.(Hobbs et al., 2017).

Furthermore, the number of teachers who really understand the flow of digital media development has also increased, from 6% of teachers who understand very well to 29%, from 65% who understand to 50%, and from 27% of teachers who do not understand to 5% of teachers who still do not understand about the flow of media development. Regarding the ability of teachers to make podcast learning media using the anchor application, only 3.5% of teachers still feel they do not understand, while 61% of teachers are very understanding and 35.5% understand the process of making podcasts using the anchor application. After the interview was conducted, the teacher who did not understand the making of the podcast had difficulty editing the backsound and finding suitable music. For that 3,

Overall, it can be concluded that most elementary school teachers have been able to

improve their ability to develop digital application-based learning media.

CONCLUSION

Based on the results of the study, it can be concluded that the steps taken in this study can change teachers' understanding in developing digital learning media, especially podcast media based on the anchor application. A series of activities that have been carried out in the research have added to the knowledge and skills of teachers in making digital learning media. Based on the findings and discussion, the question "Can elementary school teachers improve their ability to develop digital learning media? " can be answered by showing that all teachers are able to create digital learning media based on anchor applications. This also shows that the skills of teachers in developing learning media have changed.

Based on the results of the survey at the pre-action stage, it can be seen that there is an increase in the number of presentations of teachers who are very familiar with developing digital learning media. Even based on the survey results, participants were satisfied with the series of training activities and hoped that further training related to other applications would be provided. Based on the results of participant interviews, in this case, elementary school teachers plan to use the anchor application to create podcasts that will be used in learning. In addition, all participants also agreed that the anchor application was easy to use and really helped them to make innovations in their learning media.

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