

# The Effectiveness of Interactive Digital Evaluation Training for Improving Teacher Skills in the Covid-19 Pandemic Period

Wahyu Nur Hidayat

Department of Electrical Engineering  
Universitas Negeri Malang  
Malang, Indonesia  
wahyu.nur.ft@um.ac.id

Hary Suswanto

Department of Electrical Engineering  
Universitas Negeri Malang  
Malang, Indonesia  
\*hary.suswanto.ft@um.ac.id

Chandra Wijaya Kristanto

Department of Electrical Engineering  
Universitas Negeri Malang  
Malang, Indonesia  
chandra.wijaya.1605336@students.um.ac.id

Afista Pramudya Wardhani

Department of Electrical Engineering  
Universitas Negeri Malang  
Malang, Indonesia  
afista.pramudya.1705336@students.um.ac.id

Achmad Hamdan

Department of Electrical Engineering  
Universitas Negeri Malang  
Malang, Indonesia  
achmad.hamdan.ft@um.ac.id

Rahajeng Kartika Sari

Computer and Network Engineering  
SMKN 10 Malang  
Malang, Indonesia  
rahajengkartikasari@gmail.com

**Abstrac—** In improving the quality of education, teachers have a very important role in it. To carry out these tasks, teachers must have skills and knowledge in accordance with the curriculum used, the 2013 curriculum. And with the COVID-19 pandemic, teachers are also required to be more creative in using technology in learning that can increase participant interest. Some applications that can help teachers in online learning are the Google Classroom and Quizizz applications. However, currently, many teachers do not really understand how to use technology in online learning. Therefore, this training was held with the aim of finding out how effective technology is for teachers with a project-based learning model. Research participants will get several projects to create online classes in google classroom and create online quizzes with the quizizz application, which can be applied to their own participants in online learning. The research method used is quantitative research methods using pretest-posttest group design research. The research was conducted at SMAN 1 Jombang with 61 participants, all of the participants is a teachers. The training was held for three days, where the first day of face-to-face learning, and the next day online learning was carried out. The results show significant improvement and skills. In several aspects such as the relevance of the score is 86.11%. From the quality of the materials got 85.00%, and from the quality of the trainers 87.77% and overall, it means very good.

**Keywords—** Website, Digital Marketing, Production and Services Unit Introduction (*Heading 1*)

## I. INTRODUCTION

The Covid-19 pandemic is a global health crisis that affects all sectors, especially sectors that need crowds for activities, on this occasion we will show you about the education sector. Some countries take a policy, whoever needs a company to do its job must be close for a while. Moreover, they closed the school for a while, then they made it an alternative activity that could do activities without meeting like before. [1] This pandemic attacked all sectors, especially the economic sector so that the government adopted a new normal policy. They call it the new normal, which is a change in behavior to continue carrying out normal activities by implementing health protocols to prevent Covid-19 transmission. However, not all sectors are ready for the new normal, especially in the education sector. Both teachers and participants feel unprepared if 100% of learning changes to a new normal. Different skills and literacy create obstacles in the implementation of online

learning, therefore it is necessary to hold online learning training for teachers in preparation for the implementation of the new school year [4].

There are many ways that are used as alternatives so that schools continue to carry out training such as several other places that have green zones or safe zones that are allowed to do face-to-face training, other solutions are homeschooling, shifting systems and online learning. Online learning is an option that many schools use because it is easy to implement and practical, but it may be a challenge for teachers and participants alike. Face-to-face learning turned into online learning on an unknown scale untested and unprecedented [2].

Currently, educational institutions in Indonesia are starting to implement distance learning in teaching and learning activities. Online learning activities are carried out on several services that provide E-learning facilities. Other learning activities such as meetings and consultations are also using a new model with online conferencing. This has led to the increasing need for the internet in the era of the Covid-19 pandemic. Currently, the need for internet use has increased by 30 to 40 percent. Also, internet usage in disadvantaged areas has increased by 23% [3]. Several technologies and tools that have helped in the learning process and work activities such as Google Classroom, Edmodo, Google Meet, Zoom, Teacher Room, Moodle, and others. And there are various kinds of tools and models to support teaching and learning activities that can be adapted from the characteristics and needs of learning in schools such as research needs in this era, we can use a questionnaire and distribute it via Google form or other web quiz applications, then there are educational games to raise enthusiasm. participant learning in general. used for under adolescence, then videos or tutorial articles that are widely used by practicum learning models, examples that are often used come from YouTube or forums or online communities, then there are also online Quizizz and Kahoot which are used as assessments to find out the extent of participants' abilities after doing online learning.

Government policy through Law Number 20 the Year 2003 (National Education System Law) Article 40 states that educators and education personnel are entitled to career guidance in accordance with the demands of quality development. This is reinforced by Law Number 14 of 2005 concerning Teachers and Lecturers which will facilitate

teachers to be able to develop their professionalism in a sustainable manner. Teachers are required to carry out professionalism in the context of the process of growth and development and professional development as well as carrying out professional tasks in order to maintain knowledge and skills in accordance with the demands of the curriculum and advances in science and technology [5]. Teachers are also obliged to constantly improve their competence and maintain their professionalism because professional teachers have duties and functions, as well as a very strategic position in preparing a smart, independent, and productive generation of the nation. Therefore, the teaching profession must be developed as a profession with dignity (continuous quality improvement pattern) [6]. In addition, the Covid-19 pandemic also requires learning in Indonesia to be carried out separately, where before the pandemic learning was generally done face-to-face and included a crowd. Therefore this must be anticipated to prevent transmission, so that teacher skills are needed in managing classes online and here the competence of teachers in managing online classes will be very much needed, teachers, must be skilled to make online classes or quizzes that are attractive to participants and of course that make it easier. participants in learning. In this case, the applications that are considered suitable are google classroom and for online quizzes, quizizz, and Kahoot are selected.

The purpose of this study was to analyze the results of training for high school teachers who had undergone training for 3 days at SMAN 1 Jombang with the first 1 day of technical practicum while the next 2 days was carried out online then the applications used were Quizizz and Kahoot as evaluation media and Google Classroom as a Learning Management System. Quizizz and Kahoot is an online learning quiz platform that uses a user-friendly and realtime interface design in the sense that this quiz can be made directly remotely and has a timer so it is suitable for participants. This application also displays the results of participants' answers directly, which means that the teacher does not need to bother correcting and simply takes a score from the application and can automatically find out how far the participant will understand the extent of the participant. Meanwhile, google classroom is a virtual classroom application that can be followed by every participant being taught, besides this application also provides schedules, assignments, and discussions. The application was chosen to add variation to the teacher so that learning can be developed in a more interesting direction. The model used in this training uses a project-based learning model where at the end of the training the teachers collect the project results in the form of making online classes in google classroom and making quiz simulations on quizzes in google classroom.

Online learning is one solution that many teachers have to do, it is like the only possible solution as it only requires a few simple applications and they need practical and fast implementation. However, there are many solutions apart from that but again, it's still impossible unless the school needs to do this one. Online learning still faces several challenges, such as not all participants have good internet bandwidth, and good hardware to make training comfortable. So, there are some simple applications that can be used by everyone and all kinds of hardware specifications. In this study, an evaluation application called Quizizz and Kahoot was used. Quizizz and Kahoot is a website application that creates quiz games. This application is similar to google

form although it can be used in quiz mode but Quizizz and Kahoot are specifically for game quizzes, the difference is that the UI appearance of this application is totally used for quizzes, from creating questions to possible ranking scores. seen by the players. This quiz can be used in real-time mode meaning it can be used for quiz exams.

## II. PREVIOUS WORK

Some research that have some topic with our research is a research is discuss about a Learning management system product, they said that the product quite effective on setting the online learning to a college participant from the discussion until online assessment. And then the result of the research was taken from their quiz and also rated from the functionality, material relevance, advisability, easiness, and attractiveness. And their categorized as very good [7].

Second researcher also followed with proposed discuss about the transition of the traditional learning models that implemented in traditional way and they develop that to become a distance learning or online learning. Pandemic causing effects not just to some region but all world [8]. Besides, this research discusses about quick transition and what platform they used to like zoom, google meet and another videoconference app. Moreover, pandemic effect who distract many sectors this pandemic can be one of prepare to the future era which is we can learn without meet or just use app to meet them. Besides, this research discusses about how the future change it is, like habit, law, regulations, platforms and solution [8].

Third research discuss about how higher education have a challenges and opportunities because of pandemic. This paper can be learning in all over the world who want to improve their educational system because the pandemic has been impacted to all over the world. The different that we know from Spanish flu and covid-19, this pandemic can be recorded from the beginning, improvement day to day until we find the cure that pandemic from last like Spanish flu it is not. So, the advantage from that we can analyze and learn how we survive from pandemic, how we can adaptation from the situation [9].

Forth research about using e-learning to introduce and train to teacher for improve their skills. They collect data from questionnaire and the evaluation was carried out using a quantitative cross-cutting study using a standardized questionnaire. Also, they collect perception and acceptance from e-learning and the result is average value of 'good'. This paper enables international comparative research on teacher training to be integrated using e-learning formats [10].

## III. METHOD

The method that will be used in this research is pre and post experimental design with a model named project-based learning. In the project-based model participants learn the topics by actively connect in real-world and personally with some task or projects. This model suitable for this situation because some people easy to understand while they do some learning by doing, on the further this model develop on the pedagogy from some theory that learning by experience.

Because all the participants are teacher to deliver the knowledge to the participants, the participants were given some task to do some project to make some class with google classroom and some quiz with quizizz. This project

will lead them to apply to their participants when they're doing some online classroom. And as it said before, the experimental design that used is pre and post experimental, this experimental design comparing two situations before and after treatment to some experimental class. This research will compare participants comprehension on how to make some online classroom with google classroom and quizzizz before the training and after the training.

The first process of the learning is by explain about what is online classroom and what is the profit of making an online classroom especially on the covid-19 pandemic. And then the participants showed on some online classroom applications and some quiz applications that effective for participants learning like google classroom and quizzizz. The third process is the presenter will give some exemplify step by step to make some online class on google classroom and online quiz on quizzizz so the participants will be known more about it.

This research was held on SMAN 1 Jombang and it was held in five days total, with 2 days offline workshop on 6 July – 7 July 2020 and three days online workshop on 11, 14, 17 July 2020. From the Fig. 1. Implementation Quizizz in SMAN 1 Jombang, can be seen that it used quizzizz application for the research, and there are so many participants on the research which all of them is teacher from vocational school on Jombang and all of the participants is using a mask and doing social distancing for keeping all of them health during the Covid-19 pandemic. The research population is 67 and they are teacher of vocational high school in Jombang. The application that used for this research is quizzizz and google classroom. According to research purposes and the data type, so the data analysis technique that used is gain score and average indicator of the training. And from the Fig. 2. Offline Training and Research in SMAN 1 Jombang, can be seen the presenter is giving some tutorials for the participant on SMAN 1 Jombang with wearing a mask for keeping the precenter and other participants health during Covid-19 pandemic.



Fig. 1. Implementation Quizizz in SMAN 1 Jombang

TABLE I. Gain and criteria

Score	Classification
(N-Gain) ≥ 0,7	High
0,7 < (N-Gain) ≥ 0,3	Medium
(N-Gain) < 0,3	Low

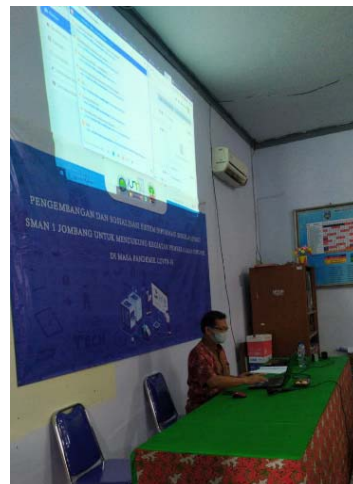


Fig. 2. Offline Training and Research in SMAN 1 Jombang

The improved result calculated with N-Gain Formula which has been determined before and based on the average gain normalized score. Gain score obtained by pretest and posttest that has been done by participants, while the maximum gain score is from the highest gain score that has been done by participants pretest and posttest [10]. Here the equation

$$Gain = \frac{\text{posttest score} - \text{pretest score}}{\text{max score} - \text{pretest score}}$$

S

S pre: Average pretest score

S max: Maximum Score

And there is a classification for gain score based on:

#### IV. RESULT AND DISCUSSION

Data of the research is participant pretest and posttest score with a gain score. The understanding of the participant to the learning materials increased if the gain score > 0.3. And from the research is known that score before training is 1333 with an average score of 66,7. But after the participant joins the training the score increased to 1773 with an average score of 88,7 [10]. The gain score can be seen on the table II: From the table I, it can be known that the gain score is 0,63 and based on the classification of gain score. It categorized on Medium classification[11].

After doing the training, the participant is expected to apply the Quizizz and Kahoot application on the learning process. The used of Quizizz and Kahoot application on learning can be processed as multi direction interaction between participant and teacher. So, it will be a new facility to build a new learning experience for participant. In the traditional learning, some participant considering that taking a quiz is not fun and making some people nervous. But with the Quizizz and Kahoot app taking a quiz is more fun, and the teacher can do it as a distance learning. This application can be classified in learning resources by utilization, it's a learning resources but it's not specifically designed for taking participant to achieve learning purposes but It can be used for improved effectiveness and interesting learning for participant [11].

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TABLE II. Gain score result

	Pre- Test	Post-Test	Gain Score
Total Score	1333	1773	12,6
Average Score	66,7	88,7	0,63

TABLE III. Evaluation result

No	Score aspect	Percentage(%)	Result
1	Relevance	86,11	Very good
2	Knowledge quality	85,00	Very good
3	Event quality	86,11	Very good
4	Trainer quality	87,77	Very good
5	Training facility	79,07	Good
6	Commitment	81,66	Very good
7	Continuity	86,66	Very good
MEAN		84,21	Very good

### Data Evaluation of the Implementation Research:

Based on table the relevance of the training that has been held is suitable according to the theme and current needs with a percentage 84,44% and the percentage of the participant gets their new experience is 87,77%. The percentage can be interpreted that the participant aware of the importance of a new experience on learning especially on this Covid-19 Pandemic and because of that, all the traditional learning in class should be replaced by online learning or distance learning. And on the relevance score, the total percentage is 86,11% and its very good score for the relevance. The second aspect is the quality of the materials, the percentage is 85,00% so it can be known that the materials have achieved their goals on the training. And then the quality of the organizer is greatly based on the percentage, the training finished on time with a percentage 90,55% and the atmosphere of the training is fun for the participant with a percentage 81,66%, and the final percentage of event quality is 86,11%.

Fourth aspect of the evaluation is the presenter's quality, the control of the material from presenters to the training has 88,88% of percentage and the skill of the presenters get a 86,66% percentage from the participants. It can be concluded that the presenters are good on the material which is the used of the Quizizz application and how to explain it to the participant. The presenters are lecture from University State of Malang and for the trainer quality it get very good score with 87,77%. Move on to the fifth aspect is the facility of the training, the participant was given a training kit when the training held with percentage of the training kit is 82,22%, in the training participant also has given a snack and consumption for their needs. There are media and tools that was given on the training and the participants was giving percentage 81,66% for it. It means that the media and also tools that was given has useful for the continuation of the online learning in this aspect the total score percentage is 79,07%.

Then for commitment of participants percentage be able to develop the media to the training that has been done is 81,66%, with a total score 147 from the maximum score 180. Its good, because based on the research it means that it's not hard to develop the media and they are enjoyed to use Quizizz for the learning media later after the training. The last is for continuity aspect, in this case the participants still needs an accompaniment on the next training with a percentage score 86,66%.

Based on the data of the research above, it can be concluded that on the whole effectivity of the technology used on learning received a good feedback from the participant. With the knowledge from the training, the participant expected to apply the knowledge to their participants in their next learning. In this research there are some obstacles while doing the training, one of them is about the connection. Because this training use Quizizz and some online learning media, so it needs a good internet connection. And the second is the focused of the participant, there is an offline training but when it goes to online learning some participant not focused to the theory that presenters give via online meetings.

### V. CONCLUSION AND FUTURE WORK

Online learning is one solution that many teachers have to do, it is like the only possible solution as it only requires a few simple applications and they need practical and fast implementation. However, there are many solutions apart from that but again, it's still impossible unless the school needs to do this one. Online learning still faces several challenges, such as not all participants have good internet bandwidth, and good hardware to make training comfortable. So, there are some simple applications that can be used by everyone and all kinds of hardware specifications. In this study, an evaluation application called Quizizz and Kahoot was used. Quizizz and Kahoot is a website application that creates quiz games. This application is similar to google form although it can be used in quiz mode Quizizz and Kahoot are specifically for game quizzes, the difference is that the UI appearance of this application is totally used for quizzes, from creating questions to possible ranking scores. seen by the players. This quiz can be used in real-time mode meaning it can be used for quiz exams.

The results of the training show that the effectiveness of the training is going well, indicated by a score of 66% in the pre-test and 88% in the post-test results, which means that the teacher has understood the material well. Then the effectiveness was also taken from a questionnaire filled out by participants who assessed several training items such as the relevance of training and teacher needs, the quality of knowledge currently used, the quality of teachers, events and facilities then also the continuity of the material.

The problem with this research is that it requires a good internet connection. And the second is the focus of the participants, there is offline training, but when it comes to online learning, some of the participants do not focus on the theory conveyed by the speakers through online meetings. From the research results and conclusions, we suggest that online learning needs several conditions. First, good internet, and secondly it requires compatible hardware to use this application, for the trick we recommend using a simple and

lightweight application, which can be used on many platforms, and usually the application is famous then we can test it for your educational environment. Those are some of the tools we need and then we have to adapt online habits that we can't make with face-to-face learning. This means that we can't give as many assignments as before, we just need to give them the actual activities that were carried out today, so that participants don't get stressed out by online learning.

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