

## COMPARATIVE ANALYSIS OF BLENDED LEARNING AND ONLINE LEARNING TRAINING FOR TEACHERS IN CENTRAL JAKARTA

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### ABSTRACT

The purpose of this study is to determine differences in teacher learning outcomes using blended learning training and online learning. This study uses a comparative method with a different test analysis technique. Respondents were 55 teachers from a population of 420 throughout Central Jakarta. The research process was carried out during January-May 2020. Data normality test was carried out by KS technique, then the data homogeneity test was carried out. Hypothesis testing uses the technique of independent sample t-test analysis with the help of SPSS 20. The results of hypothesis that there is no difference in the ability of teacher learning outcomes between group that use the blended learning approach with online learning in the Classroom Action Research Training Program for teachers in Central Jakarta. Both group have almost the same value and there is no very significant difference.

**Keywords:** Training, Blended Learning, Online Learning, Teacher, Comparison.

### I. INTRODUCTION

Entering 2020, the world is shocked by information about the spread of the corona virus originating from China. The Indonesian government initially denied that Indonesia was exposed to the virus, so that the public and the government did not prepare themselves for this pandemic. As a result, there are programs that have been prepared by the government to continue running even though the virus has become endemic in China and other countries in Asia. One such program is the Classroom Action Research Training for teachers in the North Jakarta area. The local education office has arranged the activities for five working days in sequence. It turned out that on the first day, which was March 16, 2020 the capital city of DKI Jakarta had been ordered to lockdown by the Governor of DKI Jakarta Anies Baswedan (Azhari, 2020).

The impact of this policy is that training which is actually held in class for five consecutive days is cut off, that is, one day in class (off line) for face-to-face and then through online. This combination of off line and online is called blended learning. In the second batch of April 2020, full online training was held again. This was done because the previous meeting in the first generation produced very good results and was appreciated by DKI Jakarta Governor Anies Baswedan (Kadarwati, 2020).

Based on the results of the evaluation, a second batch of training was held in lockdown. The online learning option is considered the best choice at the time of the pandemic because it does not require participants to come to the training location and there is no social contact to avoid the spread of the corona virus. Based on the different situations of the first and second generation of training, a research question arises: what are the learning outcomes of teachers, is there a difference between training using the blended learning model and training using the online learning model? This difference needs to be explored so that it can become a recommendation to the Education Office of the DKI Jakarta Provincial Government in this case the Competency Development Center for Educators and Vocational Teachers (P2KPTK2) Central Jakarta City Administration. Since there are still many similar trainings to be held in the following periods.

Blended learning model is a learning model that combines face-to-face (offline) with learning that uses online technology (Riantika, 2019). The emergence of this model as a refinement of conventional face-to-face models that do not use technological media. On the other hand blended learning is provided to perfect the learning process that is e-learning which excludes face-to-face learning. Learning not only occurs in the classroom but also outside the classroom using online media such as websites, videos and Learning Management Systems (LMS) (Zainuddin, 2020).

## II. LITERATURE REVIEW

The advantages of using the blended learning model include that the learner can express his ideas, learn actively, flexibly, based on problem solving, and learn in real accordance with the existing reality. It can be said that this model is a move from the teacher-centered learning approach to student-centered learning (Zainuddin, 2020). The learning activeness makes this model suitable given to adult students (andragogy) both in tertiary institutions and the teachers who will take part in the training.

Characteristics of adults who have a variety of activities and jobs are not only learning but doing daily tasks, it is possible to be given training with a blended learning model. Its dynamic, can learn anywhere and anytime can be designed with the form of collaboration of peers and coaches that can be established at any time. Face-to-face meetings can be used to discuss, deepen the material and solve problems experienced by students. This characteristic fits the condition of teachers in DKI Jakarta who taught during the pandemic. Distance learning is done every day with their students, monitoring children's learning and reporting learning activities to the institution (Nuraini, 2020). At the same time the teacher also participates in training conducted by the local Education Office.

Unlike blended learning, online learning does not use face-to-face as a way of learning for students. Meetings are only conducted online using internet technology. The use of this technology is actually part of e-learning (Gusdiyanto, 2020). E-learning or electronic learning is learning that uses electronic devices such as computers, DVDs, televisions, radios, and mobile phones. While online learning is learning that uses the internet as a medium that collaborates with these electronic devices. In the training for teachers in Central Jakarta, two training models were conducted, namely blended learning for the first batch and online learning for the second batch. Both of these models have never been done before in DKI Jakarta (Kadarwati, 2020).

So far the research that has been done is conventional research on training such as differences in employee perceptions using lecture training methods and discussion training methods. Comparative study with different test analysis techniques with data collection using this survey tells us that there are insignificant differences between lecture training methods and discussion training methods according to employee perceptions. It was further said that the lecture training method was better than the discussion training method (Karamoy, 2016).

If before the pandemic, experts in the education world always suggested that we use technology in education, the corona pandemic is now a momentum for education practitioners to use technology in the process of education and training. The rise of seminars that use zoom meetings and other applications become an atmosphere of the revival of educational technology in Indonesia (Komarudin, 2020). Along with this development research needs to be carried out to see the effectiveness of using learning models that use blended learning with online learning as part of the evaluation in the next wave of training. The nature and character of blended learning and online learning are not much different, only the first day there was a face-to-face meeting so it is suspected that there is no difference in the learning outcomes of teachers who use training with a blended learning approach to training using online learning.

## III. METHODOLOGY

This research method uses a comparative study with independent t test data analysis techniques. Data collection techniques are carried out quantitatively. The teacher population is 420, with 55 respondents; 26 people in the first generation and 29 people in the second generation. These respondents are spread in elementary school, junior high school and high school. The research process was carried out during January-May 2020. Teachers included in the training are teachers who already have special requirements for promotion. The results of his study became one of the determinants of graduating the promotion.

The data comes from the scores obtained by the teacher after taking the final exam of the training. The score is taken through the process of collecting activity sheet assignments and final proposals for class action research. Data normality test is carried out by KS technique, then the data homogeneity test and hypothesis testing are done using the t-independent sample test analysis technique with the help of SPSS 20 software (Sugiono, 2019). Blended learning and online learning model training designs can be seen in the following table:

**Table 1.** Differences in teacher training designs in central Jakarta

Element study	Training model	
	Blended learning (PTK 1)	Online learning (PTK 2)
Purpose	So that students are able to make classroom action research proposals to solve learning problems in the classroom	So that students are able to make classroom action research proposals to solve learning problems in the classroom
Participants	Teacher candidates for promotion	Teacher candidates for promotion
Trainer	Trainers who come from lecturers in universities. Trainers who come from lecturers in universities	Trainers who come from lecturers in universities. Trainers who come from lecturers in universities
Theory	Classroom action research proposal	Classroom action research proposal
Media	Whiteboard, markers, infocus, platform Google Classroom, Youtube	Zoom cloud meeting, Google Classroom, Whatapp, Youtube
Strategy	Face-to-face meeting on the first day, then online	Full online
Evaluation	Collect worksheet assignments and proposals	Collect worksheet assignments and proposals

From the different training designs shown in the table above it appears that only parts of the strategy differ slightly while other aspects or elements of learning remain the same. Thus the research hypothesis can be arranged as follows:

Ho: there is no difference in learning outcomes of teachers who use training with blended learning models with training that uses online learning.

Ha: there are differences in the learning outcomes of teachers who use training with blended learning models with training that uses online learning significantly.

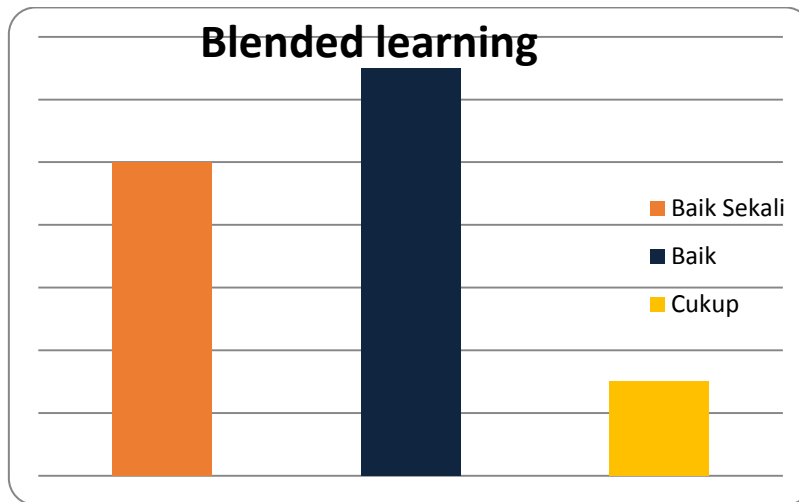
#### IV. RESULTS

The description of the data in this study is related to the criterion variable, namely the ability to make Classroom Action Research (PTK) proposals for teachers in Central Jakarta, both of whom were given Blended Learning and Online Learning. Data is presented in the form of descriptive statistics, which are the mean, standard, and graph describing the data obtained from the test results on the training participants. Based on data obtained through the implementation of the posttest, it was found that the average ability of the PTK group was 86.62, simp.baku 7.46 out of 26 participants. And the PTK 2 group obtained an average of 84.7, simp.baku 5,511 from 27 participants it can be seen in the table below:

**Table 2.** Group statistics

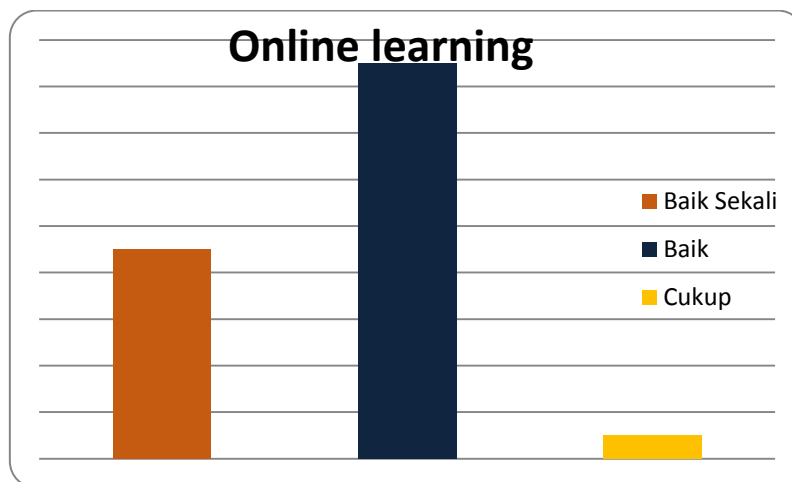
Group statistics					
	Group	N	Mean	Std. Deviation	Std. Error Mean
Score	Blended learning	26	86,62	7,468	1,465
	Online learning	27	84,70	5,511	1,061

From the average value obtained by each group that the blended learning group has an average value higher than online learning. However, the value is not too far away so that it can be said that the difference is not significant. And to make sure whether there are differences or not t test can be done to determine the level of difference significantly. Besides that, in the graphic presentation, it was found that in the blended learning group, as many as 10 people got very good scores, 13 people got good scores, and 3 people got enough scores from the 26 participants. Below is a graphic about the ability of blended learning groups:



Picture 1. Graph blended learning group ability score

Whereas for the ability of the online learning group skor obtained frequency by category that is very good 9 people, both 17 people, and enough 1 person from 27 participants. Below you can see a graphic of the participants' abilities:



Picture 2. Graph online learning group ability score

#### 4.1. Data Normality Test

Normality test is carried out to determine the distribution of data in both groups whether they are normally distributed or not. Based on the results of data processing and normality testing of the two groups using the KS technique the value of the blended learning group is 0.261 with sig. 000 < 0.05, and online learning groups 0.268 with sig. 0.00 < 0.05, both groups of data are not normal. This can be seen in the table below:

Table 3. Tests of normality

		Tests of Normality					
Score	Group	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	Df	Sig.
	1	,261	26	,000	,838	26	,001
	2	,268	27	,000	,836	27	,001

a. Lilliefors Significance Correction

#### 4.2. Data Homogeneity Test

Homogeneity test aims to find out whether the two groups of data are homogeneous or not. Based on the table below, the statistical levene value of 0.881 is obtained with sig. 0,351 > 0.05, so both groups of data are homogeneously distributed:

**Table 4.** Tests of homogeneity of Variances

Test of homogeneity of variances			
Score			
Levene Statistic	df1	df2	Sig.
,881	1	51	,352

### 4.3. Hypothesis Testing

Hypothesis testing in this study aims to examine differences in the ability of PTK learning outcomes given the blended learning approach and the online learning approach with the independent sample t-test analysis technique with the help of SPSS 20 software. Based on the results of tests carried out with the independent t test, the tstat value is 1.063 with sig value  $0.293 > 0.05$ , then the null hypothesis is accepted, meaning that there is no difference in the ability of learning outcomes between groups given the blended learning approach to online learning.

## V. DISCUSSION

Based on the results of hypothesis testing it was found that there were no differences in the ability of teacher learning outcomes between groups using the learning approach of blended learning and online learning. This means that the use of the two approaches both have their respective advantages that can be utilized by the committee and speakers in presenting material to participants. Moreover, the pandemic period has not yet ended while the education system must continue, so the choice of these two approaches can be taken so that the government can continue to run its programs. As stated by Muhammad in an online seminar that the learning process can be done as long as there is creativity by the teacher in the use of technology (Muhamad, 2020). In this training there is the creativity of the resource persons by making video tutorials making class action research proposals which are spelled out clearly by providing examples of their applications in the world of education (Winata, 2020). Blended learning training has the advantage of being face to face between the speakers and participants. This allows questions to be answered by participants directly (without pauses) and can also be discussed on the spot. As illustrated in the following photo, there was a meeting to equalize perception in the opening of the training and presentation of material by the speakers:



**Picture 3.** Blended learning training (face-to-face and online combination)

While in online learning there are no face-to-face meetings. This gives an advantage because the teacher can adjust his study time with the live hours of the speakers. The opportunity to make assignments is also more flexible because they are in their own homes rather than in the classroom. The convenience provided by the use of technology was conveyed by Wibawa that the use of technology has challenges and opportunities including, teachers must prepare capable equipment and internet access, large quotas and the ability to operate the tools needed in online learning. While the opportunities obtained during the use of online learning are opening opportunities for teachers to always learn and make assessment sheets both to measure children's learning outcomes and measure the effectiveness of using the internet itself as a learning medium (online assessment technology) (Wibawa, 2020). The conditions for online learning can be seen in the following photos:





**Picture 4.** Online Learning Training (Zoom Meeting)

The advantages of online learning include having a lot of time to do the work, there is no pressure in training. The teacher can while doing the assignment as a teacher because at the same time the teacher must also teach online (Albanun, 2020). This was conveyed by participants in the closing ceremony of the Classroom Action Research Training at the end of the event. The implementation of training with blended learning and online learning is also described as the use of multifunctional media. Media such as audio, visual, text, and video are used together. The use of multimedia provides an opportunity for the trainer to engage the participants for the achievement of learning objectives namely continuous change in abilities derived from participant experience and participant interaction with the world (Smaldino, 2011).

## VI. CONCLUSIONS

Based on the research results that have been described, it can be concluded that there is no difference in the ability of teacher learning outcomes between groups that use the blended learning approach to online learning in the Classroom Action Research Training program for teachers in Central Jakarta. This means that  $H_0$  is accepted and  $H_a$  is rejected. Teacher learning outcomes in the two PTK groups have almost the same value and do not have significant differences. Factors that also influence the successful use of the approach include: (1) the resource person has the ability and creativity to train participants even though they are not face to face with the participants. Creativity is shown by making an additional video in the form of a total proposal making and examples of proposals that can be downloaded from the source channel. (2) a non-pressing learning environment. Participants do not feel pressured to complete the task in a fast time, unlike off line training which must complete the task shortly after the resource person has finished delivering the material. (3) carrying out tasks in a hurry because they can be adjusted to their own abilities and time availability. (4) work as a teacher who teaches online can also be done in tandem by attending training. (5) materials or tutorials given by the resource person can be re-broadcast and re-understood if there are parts that are forgotten or not yet understood.

Suggestions can be given to policy makers, especially for the DKI Jakarta Provincial Government Education Office, so that they can continue to conduct Classroom Action Research Training programs for teachers in Central Jakarta and other Jakarta areas by using blended learning or online learning. Both of these approaches can be used according to the needs and conditions in each area. The successful implementation of the training provides a new model in the world of Indonesian training for teachers who will follow the promotion. The next suggestion can be given to further researchers to examine other elements of this training such as follow-up training, whether the knowledge that participants have gained in training can be optimally applied when the teacher is in class in solving the problems of their students.

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## REFERENCES

- 1 Smaldino, S.E., Deborah L.L., & James D.R. (2011). *Instructional Technology & Media For Learning*. Jakarta: Golden.
- 2 Sugiono. (2019). *Quantitative Research Methods, Qualitative and R & D*. Bandung: Alfabeta.
- 3 Zainuddin, Z., & Cut M.K. (2020). Blended Learning Method Within Indonesian Higher Education Institutions. *Journal of Humanities Education*, 6(2), 69-77. <http://journal.um.ac.id/index.php/jph/article/view/10604>
- 4 Authority, B. (2020). Some Notes on Online Learning in the Covid-19 Pandemic Era. Online Learning Seminar during the Covid-19 Pandemic: Trends, Opportunities and Challenges. Online Seminar, 14 May 2020.
- 5 Winata, W. (2020). Relevant Research Results In Chapter 2 PTK. <https://www.youtube.com/watch?v=fggBuP09S04>
- 6 Winata, W. (2020). Chapter 3 Methodology in Classroom Action Research (CAR). <https://www.youtube.com/watch?v=W3-PkHje-Vk&t=209s>