

## THE EFFECTIVENESS OF EDUCATIONAL WEBINARS IN IMPROVING TEACHER KNOWLEDGE IN BOGOR REGENCY

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DOI : <https://doi.org/10.56406/jkim.v12i01.515>

### ABSTRACT

*Since the Covid-19 pandemic, online seminar activities or commonly called webinars have been increasingly carried out by many groups, including teachers. The purpose of this study was to determine the effectiveness of webinar activities on education. The research method used was Pre - Experimental with a one group pretest posttest design. The treatment given was in the form of webinar activities via Zoom Meeting. The population of this study were Early Childhood Education (PAUD) teachers in Pamijahan District, Bogor Regency. The research sample was taken voluntarily with a quota sampling technique of 30 people who met certain criteria. The primary data were in the form of pre-test and post-test results given to the sample before and after the webinar activity. The research analysis was descriptive quantitative and inferential using the Paired Samples T-Test. The results of the paired difference test showed a significance value of  $p = 0.000$  ( $p < 0.05$ ), meaning that there was a significant difference between before and after treatment. This shows that there was an increase in knowledge after the teachers participated in the educational webinar activity.*

**Keywords:** *educational webinar, preschool teacher, zoom meeting*

### ABSTRAK

Sejak pandemi Covid-19 kegiatan seminar *online* atau yang biasa disebut webinar, semakin sering dilakukan oleh banyak kalangan, termasuk para guru. Tujuan penelitian ini ialah untuk mengetahui efektivitas kegiatan webinar mengenai pendidikan. Metode penelitian yang dilakukan ialah *Pre-Experimental* dengan desain *one group pretest posttest*. Perlakuan yang diberikan berupa kegiatan webinar melalui Zoom Meeting. Populasi penelitian ini ialah guru Pendidikan Anak Usia Dini (PAUD) di Kecamatan Pamijahan Kabupaten Bogor. Sampel penelitian diambil secara *voluntary* dengan teknik *quota sampling* sebanyak 30 orang yang memenuhi kriteria tertentu. Data primernya berupa hasil *pre-test* dan *post-test* yang diberikan kepada sampel sebelum dan setelah kegiatan webinar. Analisis penelitiannya ialah deskriptif kuantitatif dan inferensial dengan menggunakan *Paired Samples T-Test*. Hasil uji beda berpasangan menunjukkan terdapat nilai signifikansi  $p=0.000$  ( $p<0.05$ ), artinya ada perbedaan signifikan antara sebelum dan sesudah perlakuan. Hal ini menunjukkan bahwa terdapat peningkatan pengetahuan setelah para guru mengikuti kegiatan webinar pendidikan.

**Kata kunci:** webinar pendidikan, guru PAUD, zoom meeting

### INTRODUCTION

In 2015, UN member countries proposed Sustainable Development Goals (SDGs) or Sustainable Development Goals until 2030. This series of agendas consists of 17 goals and 169

targets, one of which is Quality Education (Nation, 2016). All levels of education need to receive attention so that the SDGs goals can be achieved, including Early Childhood Education/Pendidikan Anak Usia Dini (PAUD). PAUD is the earliest level of education which is the foundation for students so that they are ready to undertake basic education. The age range in PAUD is from 0 to six years, but in general PAUD institutions provide education for children starting from the age of three. Meanwhile, for ages 0 to three years, education at home with their parents is preferred. This period is called the golden age, because it is a period of rapid brain development.

An important element in realizing quality education includes human resources. Based on data from The Global Human Capital Report (World Bank, 2017) Indonesia is ranked 65th out of 130 countries. This shows that our nation still needs to make various efforts and strategies to increase the capacity of its human resources. One of the human resources in the field of education is teachers. Republic of Indonesia Government Regulation Number 19 of 2017 defines teachers as professional educators with the main task of educating, teaching, guiding, directing, training, assessing and evaluating students in early childhood education, formal education, basic education and secondary education (Kemensekneg, 2017). Teachers who have this comprehensive task must have adequate competence, especially in terms of methods, strategies, and depth and breadth of teaching material. Based on a literature review conducted by (Fitria & Lestari, 2024), it was found that teacher pedagogical competence influences success in the learning process in the classroom. One way to obtain these competencies is through formal education, as in research by Haty et al. (2023) that a teacher's ability to design learning plans is influenced by their academic qualifications. Research by Riyanti et al. (2023) even examined its influence on early childhood development. Therefore, teacher competence as human resources in PAUD units is an important factor that must be considered.

In reality, the education level of teachers in PAUD is still not as expected. Data from PAUD Dikmas (2019) in 2017, more than half of PAUD teachers had not achieved Strata One qualifications. Based on these data, it can be concluded that the majority of PAUD educators or teachers in Indonesia do not have an educational background that can support their competencies, especially pedagogical competencies as professional PAUD teachers. According to Ewo et al. (2023) teacher qualifications can be updated by participating in self-development activities in accordance with current developments. Thus, providing training is one of the efforts that can be made to encourage increased competency of PAUD educators.

Various intervention activities have been carried out by both government and private institutions. These activities take the form of seminars, training, discussions and other similar activities to increase the knowledge and insight of PAUD teachers. However, the Covid-19 pandemic has hit almost all parts of the world, including Indonesia. This condition prompted the government to issue a policy of "working at home, studying at home and worshipping at home." This shifts activities that are usually carried out face-to-face (offline) to online activities. Likewise, seminars/training activities, etc., are also widely carried out online via various platforms such as Zoom, Google Meet, Webex, etc. These applications are seen as alternatives that can help online competency improvement activities (Kelana et al., 2021; Sutria & Lubis, 2021) which are now better known as webinars.

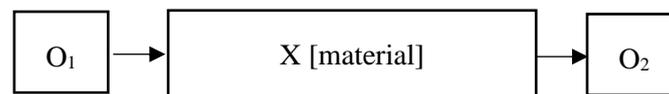
The term webinar has not yet appeared in the Big Indonesian Dictionary (KBBI). However, the meaning of this term can be found in several sources, such as Wikipedia, that webinar is an acronym for *web seminar*, or *sedaring* (acronym for *seminar dalam jaringan*) is a general term in the world of studies that refers to seminar activities carried out online, using certain internet-based websites or applications. This method allows speakers or presenters to share their information remotely, via the internet or other electronic media. According to (Prehanto et al.,

2021), the design of a webinar needs to be well designed, so that the information conveyed is clear and can motivate participants to follow the webinar well.

Online training activities can be attended by participants from various places as long as they have adequate equipment, internet quota and a strong enough signal. These are the things that sometimes become obstacles for teachers. There are quite a few teachers who don't have a supporting device, have an inadequate quota, are in a location where the signal doesn't support it, or have limited ability to use their device. These obstacles and limitations will interfere with receiving complete information from resource persons to online training participants. Therefore, it is necessary to examine the effectiveness of webinar activities, especially training held for Early Childhood Education teachers.

## METHODE

This research uses a quantitative approach with pre-experimental methods. The research design is a one-group pretest-posttest design. This design only involves one group which is given treatment in the form of webinar activities via the Zoom Meeting platform. The material provided in the webinar is about learning approaches in PAUD. Respondents were given a pre-test and post-test or tests before and after the webinar was held.



**Figure 1.** Pre-experimental design: *one-group pretest-posttest design*

Information:

- O<sub>1</sub> : pre-test measurement
- O<sub>2</sub> : post-test measurement
- X : webinar material

The population of this study was PAUD teachers in Pamijahan District, Bogor Regency. Respondents in this study were determined voluntarily using the quota sampling technique. Voluntary is the willingness of the sample itself to be involved in the activity. However, the sample must meet certain criteria. The quota sampling technique is that sample collection is carried out until the desired quota is met (Sugiyono, 2017). In this activity, interested participants registered for the webinar activity via the distributed Google form. The selected respondents must meet the following criteria: 1) respondents are PAUD teachers, 2) live in Bogor Regency, 3) are willing to participate in the webinar via zoom meeting from start to finish, and 4) are willing to fill out the pre-test and post-test.

The primary data of this study were questionnaires regarding webinar materials given to the sample. The questionnaire was prepared by considering various aspects, such as the length and order of questions, wording, and question order (Lietz, 2010). In addition, it also involved experts, as stated by Hardesty & Bearden (2004) that the use of experts in developing scales was carried out to increase the validity of the appearance (face validity) of construct measurements that cannot be observed directly.

The validity test of the questionnaire was carried out with content validity by two experts using the V coefficient (Aiken's V) which helps determine the extent to which the items in the instrument reflect the domain being measured (Aiken, 1985). The results of the Aiken's V calculation showed that the value of all items in the questionnaire was above 0.75, so the items were declared to have good content validity. The questionnaire for this study was prepared with

a focus on treatment so that after being declared valid, the questionnaire could be used in research.

The data obtained were analyzed descriptively quantitatively and inferentially using SPSS 25 software. Descriptive analysis was used to identify the characteristics of respondents, namely gender, age, education, and teaching experience, as well as the average pre-test and post-test scores. While the inferential analysis was a paired difference test with a paired sample t test to determine the effectiveness of webinar activities.

## RESULT

The webinar activity was carried out for six hours including allocated time for pre-test, post-test and breaks, namely from nine in the morning to three in the afternoon. Webinar material regarding various learning approaches for early childhood. The webinar participants consisted of teachers who teach in Early Childhood Education in Pamijahan District, Bogor Regency. The number of participants who registered via Google Form was 43 participants. However, there were 30 participants who met the requirements and were proven to be present at the webinar from start to finish. Demographic data of webinar participants consisting of gender, age, education and teaching experience are presented in Table 1.

Based on gender, the number of female participants dominates compared to men, namely 28 participants, while there are two male participants. For the categorization of participants based on age, 25 participants were in the early adulthood age range, namely between 18 – 40 years, and 5 participants were in middle adulthood, namely the 40 – 60 year age range. There were no participants in the elderly adult category or over 60 years of age. This age categorization is based on life span development according to (Santrock, 2011).

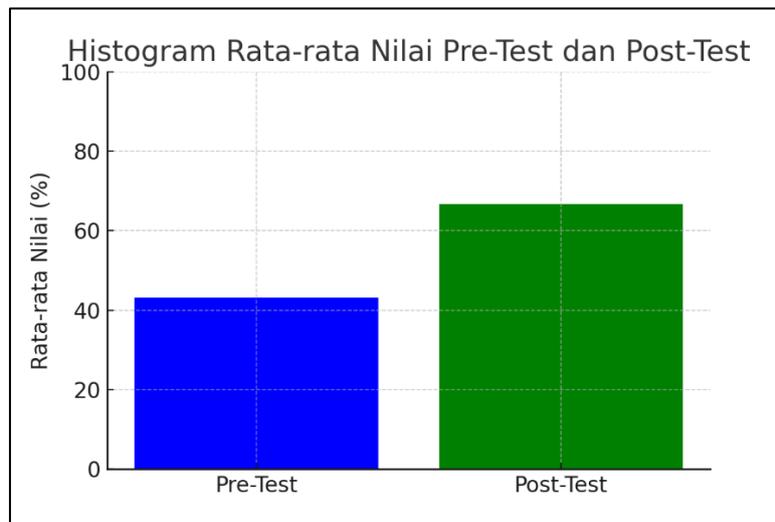
Other demographic data that is considered important is the last education and experience of teaching webinar participants. Based on the data obtained, 28 participants were high school/equivalent graduates, and two people had degrees. Meanwhile, based on the teaching experience category, as many as six people have more than five years of teaching experience, 17 people have between 1 - 5 years of teaching experience, and seven people have less than one year of teaching experience. The demographic data shows the diverse backgrounds of webinar participants, both in terms of gender, age, education and teaching experience.

**Table 1.** Demographic Data of Webinar Participants

NO	DEMOGRAPHIC	TYPE	AMOUNT	%
1	Gender	Female	28	93,3
		Male	2	6,7
2	Age	Early Adulthood	25	83,3
		Middle Adulthood	5	16,7
		Late Adulthood	0	0
3	Education	High School/Equivalent	28	93,3
		Bachelor degree	2	6,7
4	Teaching Experience	< 1 Years	7	23,3
		1 – 5 Years	17	56,7
		> 5 Years	6	20

Other research results are the average pre-test and post-test score data obtained before and after the webinar activity was carried out. The results showed that the average pre-test score was 43.2% and the average post-test score was 66.7%. From these results, a percentage increase

of 23.5% was obtained, indicating that educational webinar activities were effective in increasing teachers' knowledge. The histogram of the average pre-test and post-test scores is presented in Figure 2.



**Figure 2.** Average pre-test and post-test scores

Next, a paired sample t-test was conducted to determine the difference in test results before and after the webinar activity. The following are the test results in table 2.

**Table 2.** The test results differ between the pre-test and post-test

No	Type of Test	Jumlah	Std	Std. error mean	T	Df	Sig. (2-tailed)
1	Pre-test	30	15.9	3.63	-6.467	29	0,000
2	Post-test	30	15.4				

Based on the results of different tests, it can be concluded that there was an increase in the average score of participants before and after the webinar activity was carried out. The results showed that the average pre-test score was 43.2% and the average post-test score was 66.7%. From these results, a percentage increase of 23.5% was obtained. Based on the significance table of the paired sample t-test, it is known that there is a significant difference (sig.<0.05) between the pre-test percentage and the post-test percentage. This means that the increase in the post-test percentage is closely related to the training material provided. The results of the difference test stated that there was a significance value of  $p=0.000$  ( $p<0.05$ ), meaning there was a difference between before and after training. This shows that webinar activities are seen as effective in increasing the knowledge of the participants.

## DISCUSSION

An interesting finding from the characteristics data of the webinar participants is that there are two male teachers. As is known, it is common that PAUD teachers are identical to cheerful and loving female figures. However, the figure of a male teacher is important as a masculine figure. The figure of a male teacher is very much needed at the PAUD level because male teachers have a role that cannot be replaced by female teachers, especially in the formation and strengthening of gender identity for male students (Al Baqi, 2021). According to Pusdatin 2020

data in the 2019-2020 academic year, there were 6 percent male teachers out of a total of 666,678 teachers in Indonesia (Tarida & Khadafy, 2021). Of course, this number is still far from equal, the comparison between male and female teachers. The low number of male teachers in PAUD according to Maulana et al. (2020) is caused by many things, one of which is due to the different perceptions of society towards men's work as PAUD teachers.

The majority of webinar participants were in the early adulthood category, namely more than three-quarters of the participants. The age range in this category is between 18 – 40 years. According to (Santrock, 2011), early adulthood is the time to work and build a career and become more independent. A career as a PAUD educator in Indonesia is still looked down upon. One reason is that many PAUD teachers' salaries are still much smaller than the Regency/City Minimum Wage (UMK). However, quite a few PAUD teachers survive, feeling satisfied and proud because they view their work as worship, entertainment, and the intention to improve the condition of society by sharing knowledge (Suhartini, 2018). Loyalty as a PAUD teacher is reflected in the teaching experience data, where more than half of the participants have taught for between 1 - 5 years. In fact, 15 percent have served more than five years.

Based on BPS data from Bogor Regency (2022), the total workforce is listed as 2,786,372. Of this number, no more than 12 percent have higher education. This is also reflected in the education level of webinar participants, of which only 6.7 percent have a first degree education. The level of education of PAUD teachers is still far from expectations, making the government and various parties make various efforts to increase their competence and knowledge, one of which is webinar activities which have started to take place since the Covid-19 pandemic. This activity is held using various platforms, but the most widely used is Zoom Meeting because it is considered quite familiar and effective for online learning activities (Sutria & Lubis, 2021; Kelana et al., 2021; Kuntarto et al., 2021).

The results of the study showed that webinar activities were considered effective in increasing the knowledge of participants, namely PAUD teachers. This is different from the results of Setiani's (2020) study that online activities were considered less effective because the devices were inadequate. So, it is necessary to ensure that participants have devices, both laptops/cell phones, signals, and adequate internet quotas so that activities run smoothly. In addition, participants must also have the ability to use tools that will affect the effectiveness of the implementation of webinars that affect the improvement of teacher quality (Ratulangi & Lan, 2020). Therefore, it is important to provide training or workshops on the use and utilization of various applications using the internet, as done by (Bakhri et al., 2021) who trained teachers to use Gmail, Google Form, Google Classroom, Google Drive and video processing applications in the process of managing schools.

## CONCLUSION

Research regarding the effectiveness of webinars in increasing the knowledge of PAUD teachers in Bogor Regency resulted in the conclusion that there was an increase in the average score of participants before and after the webinar was held. The results of the descriptive analysis show that the average pre-test score is 43.2 percent and the average post-test score is 66.7 percent. So the increase was 23.5 percent. Apart from that, the results of the paired sample t-test showed a significant difference ( $\text{sig.} < 0.05$ ) between the pre-test and post-test. This means that the increase in the post-test percentage is closely related to the webinar activities that were attended. This shows that webinar activities can be an effort to increase the knowledge of PAUD teachers.

This research provides recommendations: 1) for researchers, research activities can be continued by developing a module in the form of an e-book or pocket book as a guide for

webinar participants; 2) for teachers, it is best to take advantage of various webinars because they are considered quite efficient both in terms of time and energy, apart from being proven to be able to increase knowledge significantly.

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