

THE EFFECT OF TEACHER CERTIFICATION PROGRAMS AND EDUCATION AND TRAINING MODES ON IMPROVING PEDAGOGIC COMPETENCIES ON ELEMENTARY SCHOOL TEACHER IN DKI JAKARTA

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Abstract : *Enhancing teacher competency is one of the factors that needs to be considered to improve the quality of education. As the effort to improve teacher competence, the government has certified and implemented teacher competency training since 2006. In 2015, the average score of the teacher competency test was only 56.69. Hence, the score based on teacher competency test become the background of this research. Further, as an evaluation of the certification program and the implementation of training on improving teacher competency proclaimed by the government. This study aims to determine the effect of teacher certification programs and training modes on improving the pedagogical competence of elementary school (SD) teachers in DKI Jakarta both partially and jointly. This research method uses a quantitative method approach with ANOVA variance analysis. The results showed that the teacher certification program and training mode policies were positively and significantly affected the partly or all in increasing the elementary school teacher pedagogical competencies in DKI Jakarta. As a suggestion from the results of this study, the government should include criteria for certification of educators in teacher recruitment because the increase in teacher pedagogical competence is strongly influenced by the certification program. In addition, the government should be selective in determining teacher training modes. It is proved that education and training by empowering teacher work groups or peers is more effective in improving teacher pedagogical competencies.*

Keywords: *Teacher Certification, Pedagogic Competence, Teaching and Training Modes*

1. INTRODUCTION

The law number 20 of 2003 concerning the National Education System mandates that the success of education can be measured through the National Education Standards. It was stated in the National Education Standards that the main indicators of the success of education were marked by the presence of qualified student graduates as the ultimate goal of educational success. This research will focus on one of the National Education Standards, namely the standards of educators and education personnel. In this standard, educators must have academic

qualifications and competencies as agents of learning, healthy physically and mentally, and have the ability to realize national education goals. The academic qualifications are the minimum level of education that must be fulfilled by an educator as evidenced by a diploma and / or certificate of relevant expertise in accordance with the applicable legislation.

Before 2005, the teaching profession became a profession that did not get attention for the people of Indonesia. Even higher education or teacher education institutions, or formerly known as the Teacher Training and

Education Institute (IKIP), are the last alternative for Middle School graduates in choosing majors in college. This led to the lack of the teaching profession in Indonesia to be able to educate the nation's children as the spearhead in determining the nation's progress.

In 2005, the government issued Teacher and Lecturer Law No. 14 of 2005. The law mandated that the teacher has the right to obtain opportunities to improve and develop academic qualifications, competencies, and obtain training and professional development in their fields (Article 14). In the Law, it has also been explained that the Government and regional governments must provide budgets to improve professionalism and teacher service to educational units organized by the Government, regional government, and / or society (Article 34 paragraph 3). In the explanation of the article above, the government is obliged to facilitate teachers to be able to improve and develop academic qualifications, competencies and training in professional development in their fields. Meanwhile, the Teacher and Lecturer Law Number 14 of 2005 also mandates that teachers who have met the requirements of academic qualifications and teacher competencies will be given an educator certificate. Further, article 16 also states that the Government provides professional allowances equal to one time the basic salary to teachers who already have an educator certificate.

Since the existence of Law No. 14 of 2005 concerning Teachers and Lecturers who mandated that teachers be eligible for welfare and benefits provided by the government, and also as a turning point for improving teacher welfare, making the teaching profession a favorite profession. The increase in the number of teachers has increased dramatically from 2005 to 2015. Equivalent to the increase in

the number of teachers, a significant increase in numbers has also increased for teachers who already have educator certificates.

Unfortunately, the increase in the education budget that has been allocated by the government is not necessarily followed by an increase in teacher competencies. With the teacher appointment program launched by the Central Government and the Regional Government, it can be seen that the government's efforts to meet the needs of teachers are scattered throughout Indonesia to remote areas. However, the government can only meet the needs of teachers in terms of quantity or quantity, and the quality needs of teachers cannot be guaranteed by the central government or the regions. The quality of teachers in Indonesia poses a serious threat when many teachers are appointed without regard to competency and qualification standards. Likewise with the teacher's ability to deliver learning material to students who are also not considered.

In 2015, the Government held a 2015 Teacher Competency Test (UKG) program. The program was held by the government with the aim of knowing the extent of teacher competency in Indonesia. This program has been attended by 2,699,516 teachers from 2,922,826 teachers in Indonesia in 2015, or in other words, the 2015 UKG has been attended by 92.4% of teachers in Indonesia. The results obtained from the 2015 UKG program show that teacher competency on average in Indonesia is 56.69. Or, in a sense, the level of teacher understanding of the material that must be taught to students is only 56.69%. This will certainly threaten the quality of students in Indonesia, who will understand the material less than 56.69% of the education material that should be delivered.

From the results of the 2015 UKG, it was seen that teachers at the elementary school level had the lowest average score, which was 45.33. While elementary school teachers are the most teachers in the teacher population in Indonesia with nearly 50% of Indonesian teachers are elementary school teachers. In addition, during elementary school it is necessary for teachers who are highly competent to be able to instill the child's basic intelligence needed during the growth period of ages 7 to 12 years.

Ironically, of the 2,699,516 teachers who had participated in the UKG in 2015, 1,389,859 were elementary school teachers, or 51.49% of the teachers who had participated in the UKG were elementary school teachers. Unfortunately, out of 1,389,859 elementary school teachers, 950,493 teachers had a 2015 UKG score below 60, or 68.39% of elementary school teachers still had a 2015 UKG score below 60.

With the various types of government intervention programs in an effort to improve teacher competency in Indonesia, making the measurement of the success of teacher competency improvement in a government program is rather impossible. This is because an increase in the competency of an individual teacher can be caused by the existence of several factors at the same time government intervention programs such as teacher certification programs, education and training programs, government assistance programs given to teachers to improve their competencies and so forth. This makes the existence of other variables in determining the increase in teacher competence. In order for the measurement of government intervention programs to improve teacher competencies to be more focused, government intervention programs that will be measured in this study will only be teacher

certification programs and modes of Education and Training (Diklat). Furthermore, due to the difficulty in detecting the amount of the budget that has been issued by the teacher personally, then in measuring the efficiency factor, the amount of the State Expenditure Budget is recorded in the Budget Implementation List (DIPA) of the Ministry of Education and Culture. Finally, in measuring the achievement of teacher competence, it has been explained previously that teacher competency consists of 4 components, namely Pedagogic, social, professional and personality, in this study only measures components that can be objectively measured, namely pedagogic competence and professional competence.

Prior to this study, there had been several previous studies regarding teacher certification, education and training and also its influence on improving teacher competency. What we found was 4 studies, the scope of which was still in the scope of the school and limited to the teachers at the school.

This study will focus on how much influence the teacher certification program has carried out by the government on pedagogical competencies of elementary school teachers in DKI Jakarta. In addition, he will also see how much influence the difference in training modes has on pedagogical competencies of elementary school teachers in DKI Jakarta. In this study, it will also be seen how the influence of the teacher certification program and the different modes of training together on improving the pedagogical competence of elementary school teachers in the DKI Jakarta area.

In accordance with the mandate of Law No. 14 of 2005 concerning Teachers and Lecturers, which was clarified again through Permendiknas Number 18 of 2007 concerning Teacher Certification in Position, that the government was obliged

to certify teachers as an effort to improve teacher competence.

According to Mulyasa (2007: 33), educator certificates are formal evidence as professional staff, while teacher certification is a process of giving recognition that a person who has the competence to carry out educational services in a particular education unit has passed the competency test held by the certification institution.

In addition, Steig and Frederich (theory and practice) argue that upgrading or in the present era is called education and training (Diklat) is anything that relates to activities in individuals where these activities will increase their growth and qualifications.

The two variables mentioned above, namely teacher certification and education and training, will be carried out research, will it affect the increase in teacher pedagogical competence, which according to Mishra and Koehler (2009: 125) says that "Pedagogical Knowledge refers to the method and process of teaching and includes knowledge in classroom management, assessment, lesson plan development, and student learning "(pedagogical competence is the method and process of teaching which includes knowledge about classroom management, assessment, learning planning and student learning)".

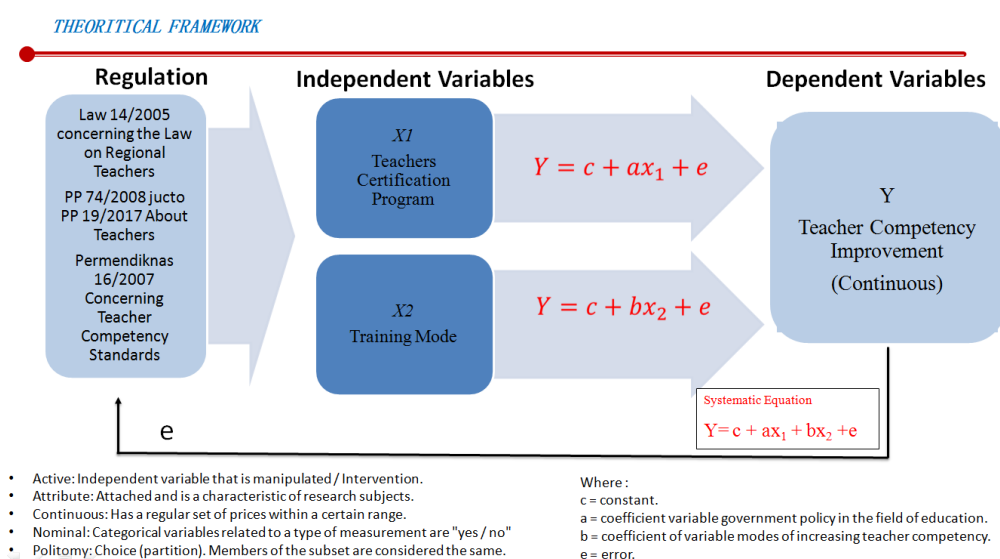


Figure 1. Theoretical Framework

The initial hypothesis for this study is 3, namely (1) there is the influence of the teacher certification program on increasing the competency of elementary school teachers in DKI Jakarta, (2) there is an influence of differences in teacher training modes on increasing the competence of elementary school teachers in Jakarta, and (3) teacher certification and the different modes of teacher training together towards increasing the competence of elementary school teachers in DKI Jakarta.

2. RESEARCH METHODS

In the study of the effect of the teacher certification program and teaching and training modes on Pedagogical Competency Improvement of Primary School Teacher teachers in DKI

Jakarta using a quantitative method approach consisting of 2 independent variables, namely teacher certification (X1) and education and training modes (X2). The two independent variables will be seen as the correlation with the dependent variable, namely the increase in teacher competence (Y), or the extent to which the teacher increases his competence with the existence of these two independent variables. The independent variables of education and training modes are divided into face-to-face training, online training and mixed training.

Dimension of variables and indicators in training mode

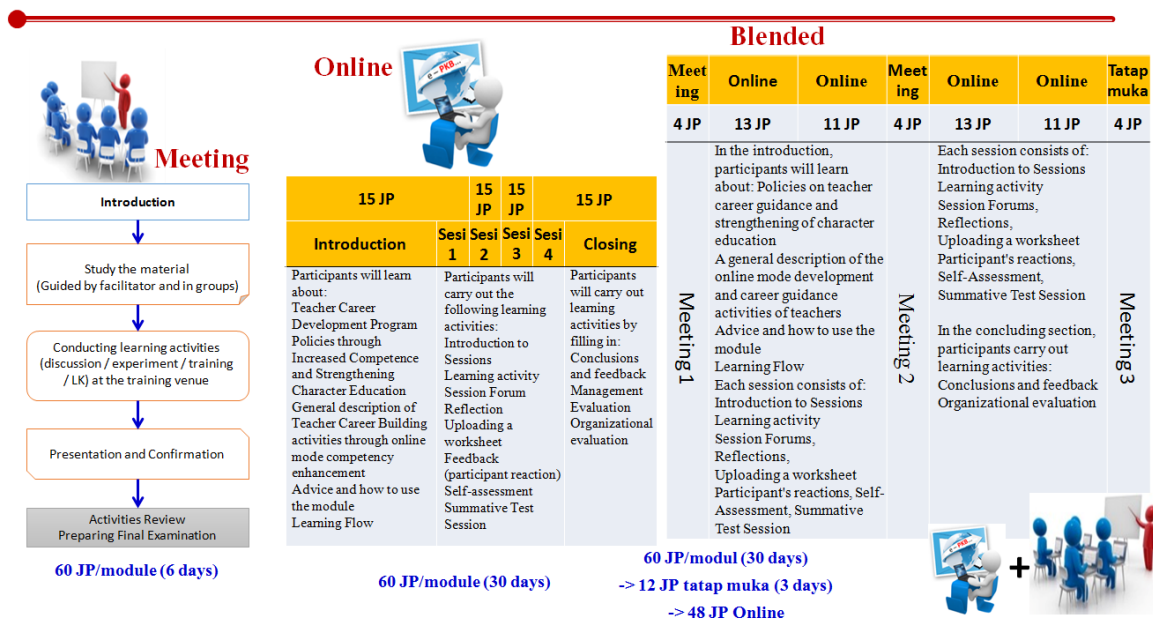


Figure 2. Dimensions of Variables and Indicators of the Mode of Education and Training

In this study, the control data or baseline data prior to the study were the teacher competency test (UKG) data conducted by the Ministry of Education and Culture (Kemendikbud) on 31,849 primary school teachers in DKI Jakarta. Then there were 621 teachers as samples, consisting of 234 non-certified teachers and 387 certification teachers. In these data the results of the teacher's professional and pedagogical competencies have been recorded. The research will be conducted by dividing into 3 group designs at random, namely groups that will be intervened face-to-face

training, online and mixed. Each group consists of teachers who already have educator certificates and teachers who do not have an educator certificate. At the end of the study, we will see an increase in the teacher's competency value in each group, including distinguishing how much the teacher's competency increases has an educator's certificate and how much the teacher's competency increases that doesn't have an educator's certificate. On average, there will be a greater increase in teacher competency between the three groups given different interventions.

RESEARCH METHODOLOGY– Treatment on sample

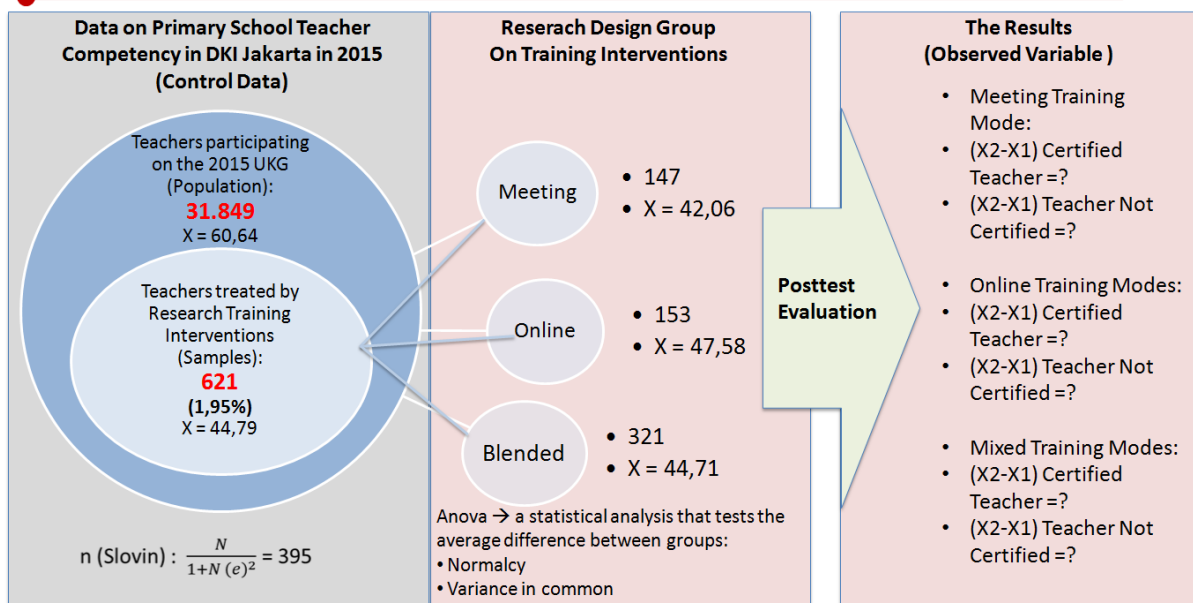


Figure 3. Sample treatment

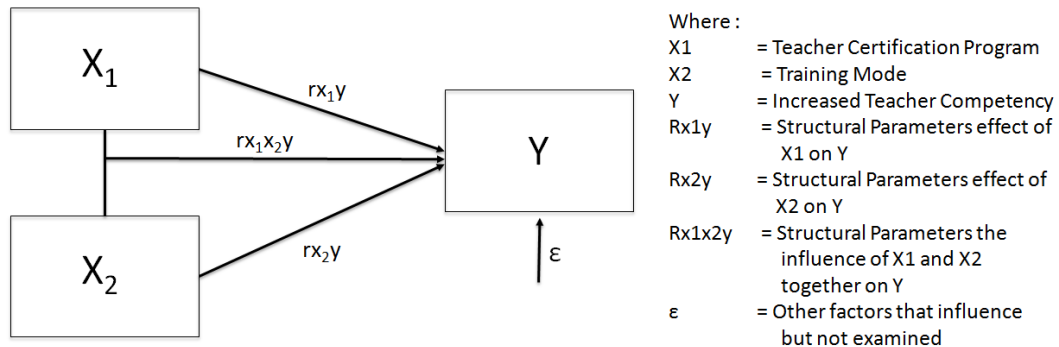
After the treatment ends based on the type of training intervention, the test will be carried out simultaneously. Tests are carried out using an online web-based system in their respective assignments to carry out tests where the results of this test will be used as the dependent variable. The test questions will be distributed to all participants with the same weight and difficulty level. Each question package is adjusted to the teacher's background and based on the type of training that he takes.

The magnitude of the results that need to be considered from the research on the effect of the Teacher Certification Program and the Education and Training Mode on Teacher Pedagogic Competence in DKI Jakarta is the magnitude of the value of increasing teacher competence as

the dependent variable. The value of teacher competency based on the results of this study will be recorded as the final score of the individual teacher. The deviation between the initial competency value and the final value of the competencies of each individual teacher will be recorded as the dependent variable.

The research model to be used in this study is regression analysis to determine the magnitude of the effect of both partial and multiple teacher certification program variables, along with the teacher training mode variables which are divided into face-to-face training, online training and mixed training, on the dependent variable namely increase teacher's pedagogic competence.

RESEARCH MODEL



ANOVA TEST

- Independent variables that are categorical and equivalent (Politomy: Options / partitions. Members of the subset are considered the same)
- Large amounts of data in each group
- Samples come from independent groups.
- Variants between groups must be homogeneous (Homogeneity Test)
- Data for each group is normally distributed (Normality Test)

Sources : Sugiyono, Metode Penelitian Bisnis (2004 : 153)

Figure 4. Research Model

Mathematically, the regression model of the research model can be described as follows,

$$Y = c + ax_1 + e$$

and

$$Y = c + bx_2 + e$$

So that the equation is simultaneously obtained:

$$Y = c + ax_1 + bx_2 + e$$

Where:

Y = Increased teacher competency, as a dependent variable.

c = constant.

x₁ = Teacher certification program as an independent variable.

x₂ = modes of education and training that are divided into face-to-face training, education and trainingonline and mixed training as independent variables.

a = variable coefficient of the teacher certification program.

b = coefficient of mode and education variables.

e = error.

In this study, it will be seen how far the changes in the dependent variable, namely the increase in teacher's competency in the classroom effectively. Modes of education and training that have a major impact on improving teacher competency but are easy to use and economically costly will be a recommendation in determining future policies to improve teacher competency.

The operational definition of the variable pedagogical competence of the teacher used as a reference in this study is based on theory according to E. Mulyasa, Hamzah and Edi Suardi which is in line with the Republic of Indonesia Minister of National Education Regulation Number 16 of 2007 concerning Academic Qualification Standards and Teacher Competencies.

The technical analysis of the data used in this study is 2, namely: (1) dummy variables and (2) ANOVA (Analysis of Variance). Data from the independent variable compiler indicators will be correlated with the results of the study as the dependent variable with the correlation

technique method that can be operated with the SPSS 19 program.

The research will be conducted in Jakarta using secondary data at the Ministry of Education and Culture for approximately 3 months (August-October 2018).

3. FINDINGS AND DISCUSSION

From a sample of 621 elementary school teachers in DKI Jakarta who have carried out teacher competency tests in 2015, as many as 387 teachers, or as many as 62% of teachers already have educator certificates. The remaining 234 teachers or 38% of teachers do not have an educator certificate. From this UKG, it can be seen that certified elementary school teachers in DKI Jakarta have an average score of pedagogical competence slightly better than non-certified elementary school teachers in DKI Jakarta.

As many as 621 elementary school teachers who have been selected in the study will be divided into 3 groups where each group will be intervened in 3 different training modes. The first group consisting of 147 elementary school teachers who have a pedagogical competency value of an average of 42.06 will be intervened with face-to-face training modes. The second group consisting of 153 elementary school teachers has a pedagogical competency value of an average of 45.57 which will be intervened with online training modes. The third group consisting of 321 elementary school teachers has the value of pedagogical competencies on average of 44.71 will be intervened with mixed training modes.

In the mixed training group there were 321 teachers who had an average value of pedagogical competence of 44.71; consisting of 72 teachers who do not have an educator certificate that has an average value of pedagogical competence of 41.98, and 249 teachers who already have an

educator certificate that has an average value of pedagogical competence of 45.43.

In the online training group there were 153 teachers who had an average pedagogical competence of 47.57; consists of 80 teachers who do not have an educator certificate who have an average value of pedagogical competence of 46.01, and 73 teachers who already have an educator certificate that has an average value of pedagogical competence of 49.13. In the face-to-face training group, there were 147 teachers who had an average value of pedagogical competence of 42.06; consists of 82 teachers who do not have an educator certificate that has an average value of pedagogical competence of 41.38, and 65 teachers who already have an educator certificate that has an average value of pedagogical competence of 42.91.

Interpretation of Research Results

In the SPSS 19 application, it can be seen that the R square value is 0.51 which means the teacher certification program and training mode have an effect of 51% on the improvement of pedagogical competence of elementary school teachers in DKI Jakarta, while the remaining 49% is influenced by other variables not examined in the study this.

Effect of Teacher Certification on Increasing Teacher's Pedagogic Competence

For the first regression model where regression analysis is performed to determine whether there is influence of teacher certification on teacher competency improvement, because from the results of previous regression analysis on the partial test of variable coefficient X1 (teacher certification) is significant in the model, it can be concluded that teacher certification has an effect on improvement teacher competency. The amount of influence if a person has a teacher certification is,

$$Y = 3,695 + 9,383 (1) = 13,078$$

Whereas if you don't have a teacher certification,

$$Y = 3,695 + 9,383 (0) = 3,695$$

Hence, it can be concluded that the magnitude of the influence of someone who has a teacher certificate increases the value of teacher competence by 13,078.

The Influence of Teaching and Training Modes on Increasing Teacher Pedagogic Competence:

For the second regression model where regression analysis is performed to determine whether there is an influence of training mode on improving teacher competency, because from the results of previous regression analysis the partial test coefficients D1 and D2, which are dummy variables of training mode, are significant in the model. that education and training modes influence the improvement of teacher competence. The magnitude of the influence is when used face-to-face training mode then,

$$Y = 12,440 - 3,959 (1) - 7,958 (0) = 8,481$$

When used online training modes,

$$Y = 12,440 - 3,959 (0) - 7,958 (1) = 4,482$$

And if it is used in mixed training mode,

$$Y = 12,440 - 3,959 (0) - 7,958 (0) = 12,440$$

Then it can be concluded that the highest increase in teacher competency value is by using mixed training modes of 12.440 and the lowest is by using face-to-face training modes of 4.482.

The Influence of Certification and Education and Training Modes Against Teacher Pedagogic Competence Improvement

To find out whether there is an effect of teacher certification and training modes on improving teacher competency,

we conducted a multiple regression analysis to determine the effect size. Because from the results of the previous multiple regression analysis on the partial test coefficients of variables X1, D1, and D2 significantly entered the model, it can be concluded that teacher certification and training modes affect the improvement of teacher competence. The magnitude of the influence is that if someone has teacher certification and uses the method of face-to-face training is:

$$Y = 5,791 + 8,076 (1) - 1,165 (1) - 4,226 (0) = 12,072$$

If someone has teacher certification and uses online training modes,

$$Y = 5,791 + 8,076 (1) - 1,165 (0) - 4,226 (1) = 9,641$$

If someone has teacher certification and uses mixed training modes,

$$Y = 5,791 + 8,076 (1) - 1,165 (0) - 4,226 (0) = 13,867$$

If someone does not have teacher certification and uses face-to-face training mode,

$$Y = 5,791 + 8,076 (0) - 1,165 (1) - 4,226 (0) = 4,626$$

If someone does not have teacher certification and uses online training methods,

$$Y = 5,791 + 8,076 (0) - 1,165 (0) - 4,226 (1) = 1,565$$

If someone does not have teacher certification and uses mixed training modes,

$$Y = 5,791 + 8,076 (1) - 1,165 (0) - 4,226 (1) = 9,641$$

Then, it can be concluded that the highest increase in teacher competency value is someone who has a teacher certificate and uses mixed training modes of 13,867 and the lowest is someone who does not have a teacher certificate and uses online training modes of 1,565.

Findings and Implications of Research Results

Based on the results of the research that has been conducted, it is evident that there is an effect of teacher certification on improving pedagogical competencies of elementary school teachers in DKI Jakarta. Teachers who are certified educators will have greater pedagogical competence. As with educator certificates, the type of training mode also has an influence on improving teacher pedagogical competence. The type of mixed training mode has the most influence on the impact of increasing teacher pedagogical competence. Furthermore, followed by online training modes that have an influence on increasing the teachers' and lecturers' competence. While the type of face-to-face training mode has the smallest influence on improving teacher pedagogical competence.

The results of this study also show that the increase in pedagogical competence is greatest when mixed training modes are conducted on certified educator teachers, and are followed by face-to-face training mode treatment for educated certified teachers. Furthermore, the increase in the third largest teacher pedagogical competence is the treatment of online training modes for certified educator teachers and / or treatment of mixed training modes for teachers who do not have an educator certificate. The treatment of face-to-face training modes and the treatment of online training modes for teachers who do not have an educator certificate ranks fourth and fifth respectively.

THE RESULT– Educator Certificates Have More Influence Than Training Modes Against Teacher Pedagogic Competency Enhancement

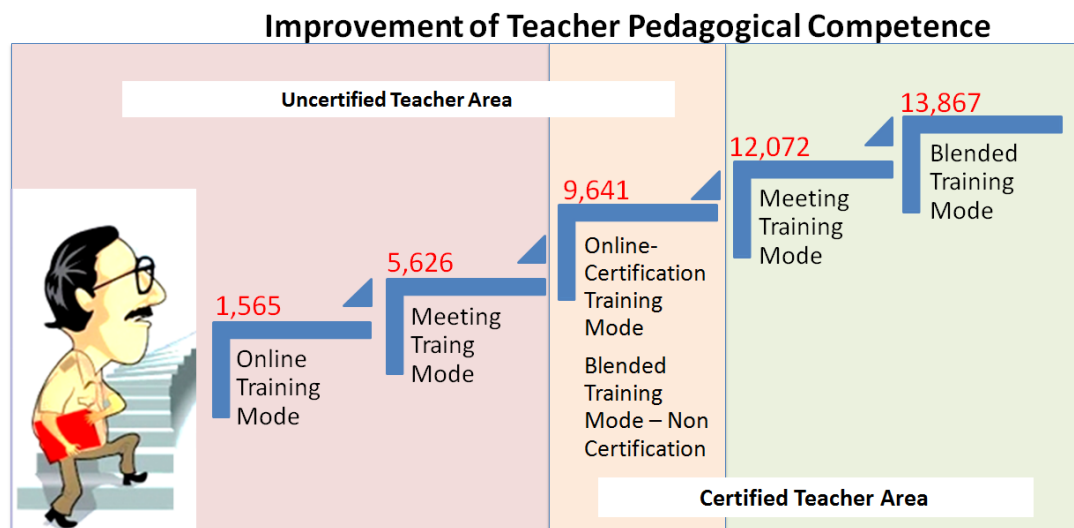


Figure 5. Areas of Influence of Certification and Education and Training modes Against Teacher Pedagogic Competence

In figure 5, it can be seen that teacher certification has a greater impact on the improvement of teacher pedagogical competencies, regardless of the mode of training they take. The impact of an increase in teacher pedagogical

competence will be smaller if the teacher does not yet have an educator certificate, regardless of the mode of training that he has taken.

From the results above, it can be seen the importance of teachers

participating in the teacher certification program launched by the government. The teacher certification program which contains learning material and the substance of the field of study adapted to the characteristics of the participants is very helpful for teachers in terms of improving their pedagogical competencies. After the teacher participates in the certification program, the teacher will have more experience and knowledge in recognizing students so that they can design and implement learning that is in accordance with the characteristics of students in order to achieve student development.

The government has also launched a continuing professional development program for teachers, one of which is carried out with training. The government has also programmed three training modes for teachers, namely face-to-face mode for teachers who have low UKG scores, online modes for teachers who have high UKG scores and mixed modes for teachers who have moderate UKG scores. Based on the results of the study, mixed training modes have the effect of increasing teacher pedagogical competencies more effectively than the other two modes. Then followed by face-to-face and online training modes.

In the theory of learning, the effectiveness of the training material transfer process is influenced by the characteristics of training participants, training modes and work environment. The three variables that influence the effectiveness of the training material transfer process are supported by the deposition of learning outcomes and material maintenance or recall. Of the three training modes launched by the government, only mixed and online training modes have support for the deposition of learning outcomes, while

face-to-face training and training modes do not have these supporters.

In face-to-face training modes, the government provides 6 days or 60 hours of implementation time which begins with the initial test and ends with the final test. The process of transferring material to face-to-face training modes took place on the six days of the training. The face-to-face training participants were not given the opportunity to settle their learning outcomes before the final test was conducted, thus causing the average face-to-face training participants' final test results to be low.

For online training modes, the government provides 30 days of implementation time for 60 hours of material. The time given by the government for 30 days of the implementation of online training modes is enough time for the deposition of learning outcomes and material recall when practicing their learning outcomes in their assignments, but the disadvantage of this online training mode is that participants cannot see the instructors directly, causing many loss of information conveyed by the training instructor.

While in the mixed education mode, as well as online training modes, the government provides 30 days of implementation time for 60 hours of study material, but the teacher is given the opportunity to meet face-to-face with the training instructor 3 times for one day at each meeting as a learning interlude through online. This mode of training is a combined training mode between face to face and online so that the shortcomings of each mode can be eliminated in the implementation of this mixed training mode. Training participants can have time for the deposition of learning outcomes during the implementation of training and can also practice learning outcomes in their respective assignments as a means of

remembrance of the training material. The average test results after training participants' training can show that this training mode is most effective in improving teacher pedagogical competencies.

In terms of the funding needed, the mode of face-to-face training requires greater costs than the modes of online and mixed training. The mode of online training

requires the least cost compared to the three modes.

In terms of the experience of exchanging information among training participants, mixed training modes provide this opportunity to training participants because training participants can interact during face-to-face mode and also focus on training during online mode.

THE RESULTS– THE BENEFITS OF BLENDED TRAINING

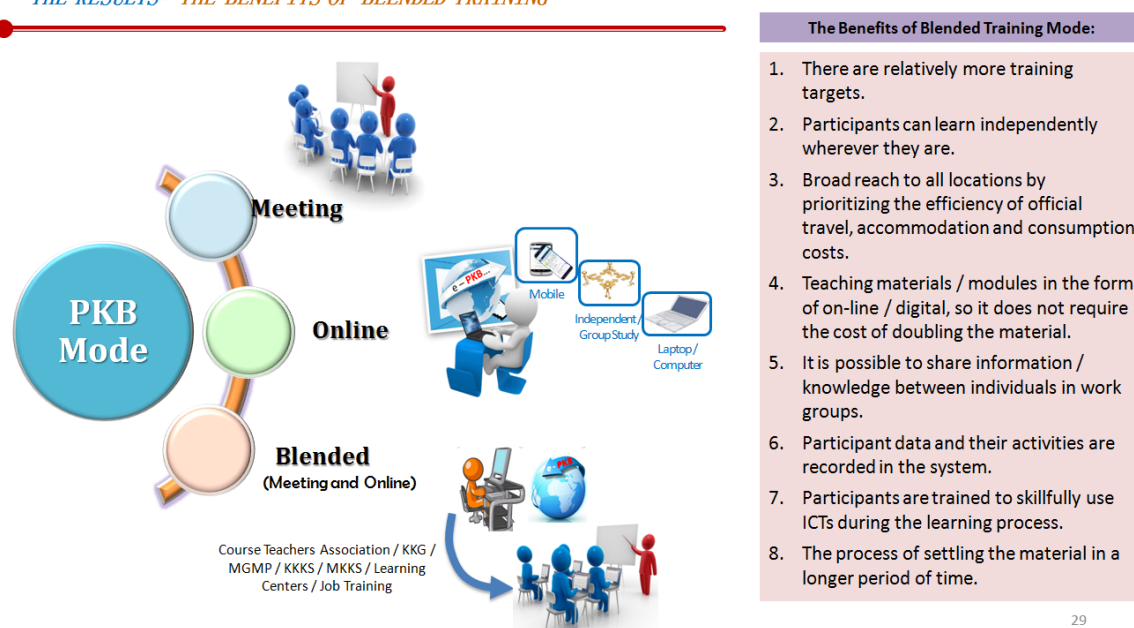


Figure 6. Advantages of Mixed Training Modes

4. CONCLUSIONS AND RECOMMENDATIONS

There are three conclusions that can be drawn from this study, and all of them are in accordance with the initial hypothesis that (1) there is an effect of teacher certification on increasing teacher competence by 40.5%. This is indicated by an increase in the value of the average teacher competency of 9,383. (2) There is an influence of training modes on increasing teacher competency by 21.4%. This is indicated by an increase in the value of the average teacher competency of 12,440 if by using mixed training

modes; increase the teacher competency average by 8.481 if using face-to-face training modes; and escalate the average teacher competency value by 4.482 if by using online training modes. And (3) there is an effect of teacher certification and training modes together on increasing teacher competency by 51% with the highest increase in teacher competency value is someone who has a teacher certificate and uses mixed training modes of 13,867 and the lowest is non-certified teachers and using online training modes of 1,565.

We suggest that in the future, the government should increase the number of teachers who have educator certificates, because teachers who have educator certificates tend to provide better teacher competency values compared to those who do not have certificates. Besides that, the government should also focus more on the modes of training with the mixed method, because this method provides an increase in the value of competencies that are higher when compared with training modes with other methods. Furthermore, the government is also expected to recruit more teachers who have certificates and then determine the teaching method that will be taught by the teacher is the mixed training mode. This is because a teacher who has a certificate and conducts teaching in a mixed education mode will provide the highest increase in the value of competence.

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