

The Effect of Competence and Teacher Certification on Performance of “Vocational High School Teachers” (SMK) Kerinci Regency with Work Motivation as Intervening Variables

Yulina Eliza¹, Almi Zukri², Taufik Raf M.³, Rozalek Yulandra⁴, Nasman Arya⁵

^{1,2,3,4,5} Sekolah Tinggi Ilmu Ekonomi “KBP” Padang, Sumatera Barat, Indonesia.

ABSTRACT : This study aims to determine the effect of teacher competency and certification on teacher performance with motivation as an intervening variable. This research is motivated by the still low competency of teachers, not all teachers who carry out their tasks well, teachers' motivation is still low, teacher's performance has not reached the target in SMK Kerinci Regency. The research method with a quantitative approach with the path analysis method. Data collection techniques with questionnaires, observation and interviews. The respondents of this study were 53 Vocational High School Teachers in Kerinci Regency. The sampling method uses the total sampling method in which the entire population in this study is the research sample. Hypothesis testing was calculated with the IBM Statistical Package for Social Science (SPSS) program version 24.0.

The results of this study found that competence has a significant effect on teacher motivation, teacher certification has a significant effect on teacher motivation, motivation has a significant effect on teacher performance, competence has a significant effect on teacher performance, teacher certification has a significant effect on teacher performance, competence has no significant effect on performance with motivation as an intervening variable, and teacher certification has a significant effect on performance with motivation as an intervening variable on Vocational High School Teachers in Kerinci Regency.

Keywords : competence, teacher certification, work motivation, teacher performance.

1. INTRODUCTION

The teacher as one of the components in teaching and learning activities has a position that greatly determines the success of learning, because the main function of the teacher is to design, manage, implement, and evaluate learning. The teacher is a professional educator who has an important task, function and role in educating the life of the nation. In addition, the position of the teacher in teaching and learning activities is also very strategic and decisive. One of the factors that influence the success of a teacher's work is his performance in planning / designing, implementing and evaluating teaching and learning. The government and the community have great expectations for teachers. Teachers are expected to become professional and have competence in carrying out their obligations as educators.

Improving the quality of education is the responsibility of all parties involved in education, especially teachers. The teacher is an inspirational figure and student motivator in carving out his future (Jamal Ma'mur Asmani, 2011, p.17). It is impossible for a school without a teacher, because the teacher is seen as a determining factor. Teachers as educators and instructors are the determining factors for the success of any educational endeavor. So that the government continues to develop the teaching profession and education personnel. In order to improve the quality of teachers, one of the efforts that must be made is the development of teacher candidates by the Teacher Training Institute (LPTK), (Muhibbin Syah 1996, p.17). In addition, M. Uzer Usman (2004, p.15) said that Professional Teachers must have criteria of healthy physical, mental, noble personality, extensive knowledge and special skills in the field of teacher training, so that they are able to carry out their duties and functions as trained teachers, and educated in their fields.

Based on the Law on Teachers and Lecturers (RI Law No. 14 of 2005), Professionals are work or activities carried out by someone and become a source of living income that requires expertise, skills, or skills that meet certain quality standards or norms and require professional education. A professional teacher is required with a number of minimum requirements, including: having adequate professional education qualifications, having scientific competence in accordance with their field of expertise, having good communication skills with their students, having a creative and productive spirit, having a work ethic and high commitment to the profession, and always carry out self-improvement continuously (continuous improvement) through professional organizations, the internet, books, seminars, and etc.

The qualifications and competencies that teachers must possess are further explained in Law No. 14 of 2005 concerning Teachers and Lecturers article 8, article 9 and article 10. The article 8 states that teachers must have academic qualifications, competencies, educator certificates, physically and mentally healthy, and have the ability to realize national education goals. Academic qualifications as referred to in Article 8 are obtained through higher education undergraduate programs or diploma four programs. Teacher competencies referred to in Article 8 include pedagogical competencies, personal competencies, social competencies, and professional competencies obtained through professional education.

National development in education is an effort to educate the life of the nation and improve the quality of Indonesian human resources. Teachers play a major role in the development of education, especially those that are held formally in the school environment, teachers also determine the success of students, especially in relation to the teaching and learning process (Mulyasa, 2007: 5). In addition, things that need to be considered to achieve high teacher performance are needed factors that affect teacher performance so that the government organizes teacher certification programs in an effort to improve the quality and dignity of teachers and teacher professionalism to improve their performance as a whole. According to Mulyasa (2007), certification can be interpreted as a process of giving recognition that someone already has the competence to carry out educational services in a particular education, after passing the competency test held by the certification body. So certification here means the granting of certificates to teachers who have passed the competency test conducted by the certification body.

The certification program requires teachers to be able to carry out their obligations as professional educators. If the teachers cannot fulfill their obligations, the government will automatically terminate the certification allowance. Teacher certification as an effort to improve the quality of teachers is expected to improve the quality of learning and the quality of education in Indonesia on an ongoing basis and hopefully teachers are more motivated to improve their professionalism at work.

Table 1. Certification Recipient Teacher Data

	Name of School	Teacher				Total (Teacher)
		Non-ANS	ASN	Certification	Non-Certification	
2017	SMK Negeri 1	31	23	16	38	135
	SMK Negeri 2	27	17	9	35	
	SMK Negeri 3	21	16	10	27	
	TOTAL	79	56	35	100	
2018	SMK Negeri 1	31	23	16	38	136
	SMK Negeri 2	27	17	13	31	
	SMK Negeri 3	22	16	12	25	
	TOTAL	80	56	40	96	
2019	SMK Negeri 1	31	25	23	33	138
	SMK Negeri 2	27	17	15	29	
	SMK Negeri 3	23	15	15	23	
	TOTAL	81	57	53	85	

Source: Secondary Data, Jambi Province Education Office (Self-processed, 2019).

If seen from table 1 above, both the Vocational High School 1, 2 and 3 of Kerinci Regency during 2017, 2018 and 2019 had number of Non-ASN and Non-Certification Teachers than the number of ASN Vocational 1 Teachers which were ASN and as many as Certification Teachers. For Vocational High School 1 in 2019 the number of Non-ASN teachers is 31 people and ASN teachers are only 25 people, 23 certified teachers and 33 Non-Certified teachers. In 2019, for SMK Negeri 2 the number of Non-ASN teachers would be 27 and ASN teachers would only be 25, certified teachers would be 23 and Non-Certification teachers would be 33. Whereas for Vocational High School 3 in 2019, the number of Non-ASN teachers is 23 people and ASN teachers are only 15 people, 15 certified teachers and 23 Non-Certified teachers. From these data it can be seen from the three Vocational High Schools in Kerinci Regency that most are dominated by Non-ASN teachers and Non-Certification teachers. However, from the table above it can be seen that there has been an increase (increase in the number) of certification teachers from 2018 and 2019, for SMK Negeri 1 in 2018 the number of Certification teachers was 16 people to 23 people. For Vocational High School 2, which in 2018 certification teachers only numbered 13 people to 15 people. And an increase also occurred at Vocational High School 3, which was in 2018, certification teachers numbered 12 people, to 15 people in 2019.

Through this certification teachers are expected to become professional educators, and have competence as learning agents as evidenced by the ownership of educator certifications after having passed the competency test and with this certification the Teachers also receive benefits in accordance with the rank and class of the teacher. Teachers are also required to have some ability to support their complex tasks, namely as educators, instructors and trainers. The professional teacher is required and is expected to have or be equipped with several abilities to realize his obligations in carrying out his duties in the teaching-learning process in school properly. The professional ability expected from a teacher can be measured or assessed through teacher performance appraisal. Data on the results of the performance evaluation of Vocational High School teachers who have a minimum B accreditation in Kerinci Regency, can be seen in the table below:

Table 2. Teacher Performance Assessment Results (PKG) 2019

Name of School	Total (Teacher)	PKG Results Category			
		Less	Enough	Good	Very Good
SMK Negeri 1	23	-	15	8	-
SMK Negeri 2	15	-	10	5	-
SMK Negeri 3	15	-	10	5	-
TOTAL	53	-	35	18	-

Source: Secondary Data, Respondents of Vocational High School Teachers in Regional Kerinci, 2019

Various phenomena in this certification allowance make teachers or educators even more confused in terms of carrying out their duties. Teachers are not only preoccupied with making lesson plans, mastering material, implementing strategies, teachers are also preoccupied with teaching materials, but teachers are also required to be able to fulfill 24-hour teaching hours. From some of the advantages of providing the certification allowance, the learning process should be more professionally implemented in schools, as well as the learning procedures, so this certification allowance should be able to be the best solution for teachers to carry out the learning process. However, from the initial observation that the author do at Vocational High Schools in Kerinci Regency, as many as 53 teachers who received certification allowances included implementing professional learning. The results of the observation show that there are still teachers who have not implemented what they should.

From the explanation above, it can be explained several phenomena about the certification allowance, including not all of them carrying out their duties as professional teachers, teachers feel very bothered in achieving 24-hour fulfillment. This fact shows that during the course of the current certification, it has not shown any real change towards a better direction, so that in the future it is necessary to improve the certification system so that it can show more tangible results. It is hoped that the main objective of the certification program is to increase knowledge, performance, creativity, and be able to carry out other functions related to teaching and learning. Based on the background of the above problems, researchers are interested in expressing this phenomenon into a form of research.

This is what attracts the attention of researchers to conduct research on granting teacher certification of Vocational High Schools in Kerinci Regency, therefore in this study researchers want to study about the problem with the title "Effects Analysis of Competence and Teacher Certification on Performance of Vocational High School Teachers in Kerinci Regency with Motivation as Intervening Variables ". The objectives to be achieved in this study are to find out and analyze:

1. Effect of competence on work motivation of Vocational High School Teachers in Kerinci Regency.
2. Effect of teacher certification on work motivation of Vocational High School Teachers in Kerinci Regency.
3. Effect of work motivation on performance of Vocational High School Teachers in Kerinci Regency.
4. Effect of competence on performance of Vocational High School Teachers in Kerinci Regency.
5. Effect of teacher certification on performance of Vocational High School Teachers in Kerinci Regency.
6. Effect of work motivation as an intervening variable between the competence and performance of Vocational High School Teachers in Kerinci Regency.
7. Effect of work motivation as an intervening variable between teacher certification and performance of Vocational High School Teachers in Kerinci Regency.

2. LITERATURE REVIEW

1. Teacher Performance

According to Hasibuan (2012, p.9) teacher performance is a work that is achieved by a teacher in carrying out tasks assigned to him based on skill, experience, and sincerity as well as time. And indicators for teacher performance based on DEPDiknas (2008) concluded that covering teacher performance assessment can be seen from 3 (three) things detailed or referring to several indicators, namely: (a) how a teacher plans learning, (b) how a teacher implements activities learning, and (c) how a teacher assesses learning outcomes.

2. Competence

According to Kunandar (2008, p.55), teacher competence is a set of mastery of abilities that must exist in the teacher in order to realize their performance appropriately and effectively. Indicators of teacher competency according to Kunandar (2008, p.55) include: (a) intellectual competence, (b) physical competence, (c) personal competence, (d) social competence, and (e) spiritual competence.

3. Teacher Certification

Certification can be interpreted as a process of giving recognition that someone already has the competence to carry out educational services in a particular education, after passing the competency test organized by the certification body (Mulyasa, 2007). And this indicator of teacher certification according to Mulyasa (2005, p.33). include: (a) Competence in the Field of Study, (b) Understanding of Student Characteristics, (c) Educating Learning, (d) Professional Development, and (e) Educator Personality.

4. Work Motivation

According to Hasibuan (2012, p.95) states that motivation is providing the driving force that creates the excitement of one's work, so they want to work together, work effectively and be integrated with all their efforts to achieve satisfaction. According to Thoha (2008, p.203) Indicators of work motivation include: (a) internal motivation and (b) external motivation.

3. RESEARCH LOCATION

The research conducted by the author is a study within the scope of human resource management, namely analyzing the effect of competency and teacher certification on teacher performance with motivation as an intervening variable in Vocational High School Teachers in Kerinci Regency. The research was conducted from November 2019 to February 2020, which was conducted by distributing questionnaires to respondents.

1. Conceptual Framework

Based on the research objectives, the conceptual framework of this study:

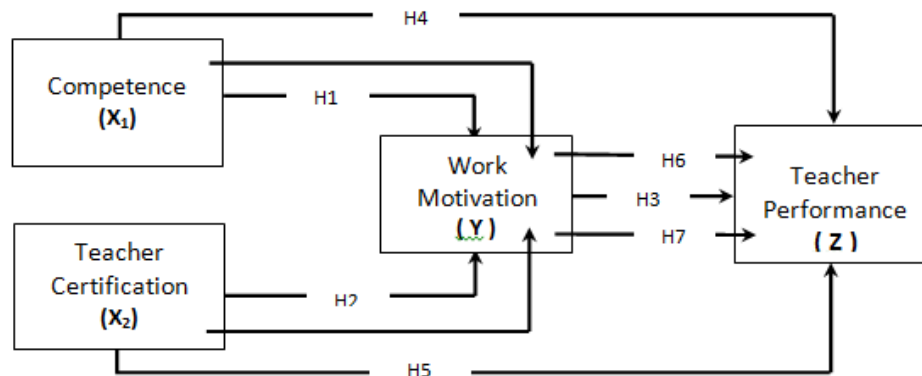


Figure 1. Research conceptual framework

2. Hypothesis

Based on the conceptual framework above, it can be formulated a hypothesis in this study as follows:

- H1** : Competence has a significant effect on work motivation of Vocational High School Teachers in Kerinci Regency.
- H2** : Teacher certification has a significant effect on work motivation of Vocational High School Teachers in Kerinci Regency.
- H3** : Work motivation has a significant effect on performance of Vocational High School Teachers in Kerinci Regency.
- H4** : Competence has a significant effect on performance of Vocational High School Teachers in Kerinci Regency.
- H5** : Teacher certification has a significant effect on performance of Vocational High School Teachers in Kerinci Regency.
- H6** : Work motivation as an intervening variable has a significant effect between competency and performance of Vocational High School Teachers in Kerinci Regency
- H7** : Work motivation as an intervening variable has a significant effect between teacher certification and performance of Vocational High School Teachers in Kerinci Regency.

4. RESEARCH METHODS

1. Path Chart

The first step in path analysis is to design a path diagram according to the hypothesis developed in the study. Based on the research title, the path analysis model in this study can be described as follows:

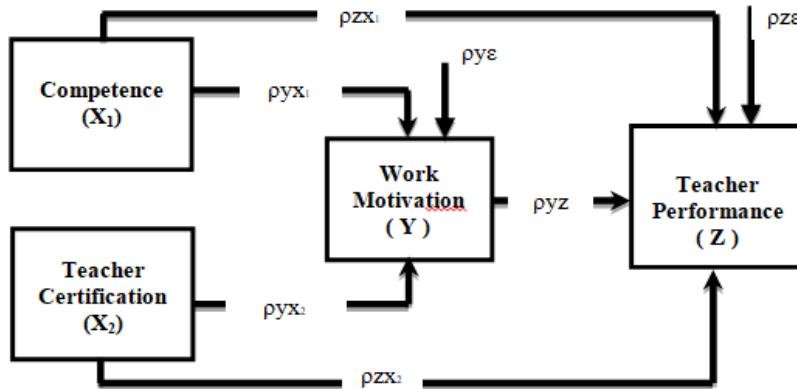


Figure 2. Path Chart - Effect of Competence, Teacher Certification, Work Motivation on Teacher Performance

1. Structural Equation

The picture or diagram used in this research is to use path analysis technique which is a picture that shows the structure of causal relationships between variables. The results of the path diagram magnitude show the magnitude of the effect of each independent variable on the dependent variable called the path coefficient. Furthermore, the diagram above can be broken down into 2 (two) substructures as follows:

A. Substructure I

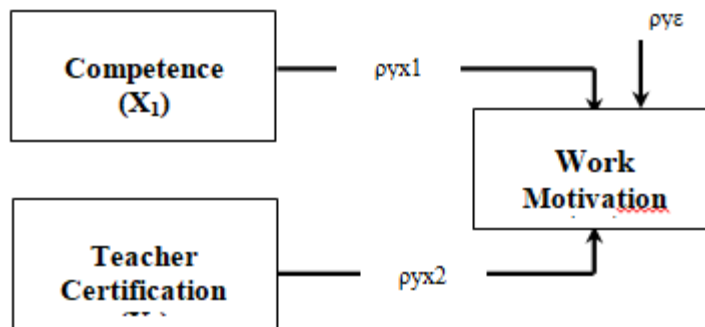


Figure 3. Substructure I - Effect of Competence and Teacher Certification on Work Motivation

Based on Substructure I, the following equation can be put forward that structure is:

$$Y = \rho_{yx_1} X_1 + \rho_{yx_2} X_2 + \rho_{y\epsilon}$$

Information:

X₁ = Competence

X₂ = Teacher Certification

Y = Work Motivation

ρ_{yx_1} = Correlation Coefficient of Competence with Work Motivation

ρ_{yx_2} = Correlation Coefficient of Teacher Certification with Motivation

$\rho_{yx_1} X_1$ = Path Coefficient of Competency to Work Motivation

$\rho_{yx_2} X_2$ = Path Coefficient of Teacher Certification to Work Motivation

$\rho_{y\epsilon}$ = Other factors that effect Work Motivation

B. Substructure II

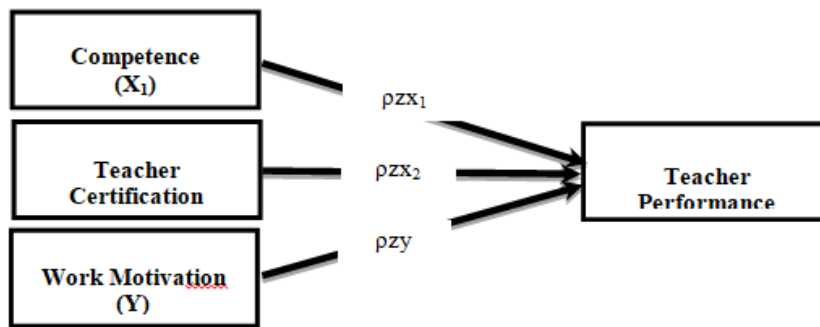


Figure 4. Substructure II - Effects of Competence, Teacher Certification, and Work Motivation on Performance

Based on Substructure II, the following structure equation can be stated, namely:

$$Z = \rho_{zx1} X_1 + \rho_{zx2} X_2 + \rho_{zy} Y + \rho_z \epsilon$$

Information:

X₁ = Competence

X₂ = Teacher Certification

Y = Work Motivation

Z = Teacher Performance

ρ_{zx1} = Correlation Coefficient of Competence with Teacher Performance

ρ_{zx2} = Correlation Coefficient of Teacher Certification with Teacher Performance

ρ_{zy} = Correlation Coefficient of Work Motivation with Teacher Performance

ρ_{zx1} X₁ = Path Coefficient of Competency to Teacher Performance

ρ_{zx2} X₂ = Path Coefficient of Teacher Certification to Teacher Performance

ρ_{zy} Y = Path Coefficient of Work Motivation to Teacher Performance

ρ_z ε = Other factors that effect Teacher performance

C. Direct and Indirect Effects

To determine the effect of an independent variable on the dependent variable directly or indirectly, it can be seen as follows:

- a. Variable X₁
 - The direct effect of variable X₁ to Z
 $Z \leftarrow X_1 \rightarrow Z(\rho_{zx1})(\rho_{zx1})$
 - The indirect effect from X₁ to Z through Y
 $Z \leftarrow X_1 \Omega Y \rightarrow Z(\rho_{zx1})(\rho_{yx1})(\rho_{zy})$
- b. Variable X₂
 - The direct effect of variable X₂ to Z
 $Z \leftarrow X_2 \rightarrow Z(\rho_{zx2})(\rho_{zx2})$
 - The indirect effect from X₂ to Z through Y
 $Z \leftarrow X_2 \Omega Z \rightarrow Z(\rho_{zx2})(\rho_{yx2})(\rho_{zy})$
- c. Variable Y
 - The direct effect of variable Y to Z
 $Z \leftarrow Y \rightarrow Z(\rho_{zy})(\rho_{zy})$

5. DATA ANALYSIS AND DISCUSSION

1. Description of Research Results

This type of research is quantitative analysis using the path analysis method, while the variables in this study are competence, teacher certification, work motivation, and teacher performance. The sample collection method used is the total sampling method, where the population and at the same time the study sample totaling 53 teachers of Vocational High Schools in Kerinci Regency. Data collection techniques in this study using a

questionnaire and processed using the IBM SPSS for Windows version 24.0. The results of this study are generally based on the results of the questionnaire given to respondents, seen in the following table:

Table 3. Variable Descriptive Analysis Results

	N	Min	Max	Mean	Std. Deviation	Statement Item	TCR	Information
	Stat	Stat	Stat	Stat	Stat			
Competence	53	37	48	42.13	2.304	10	84.26	Good
Teacher Certification	53	36	49	41.79	3.066	10	83.58	Good
Work Motivation	53	38	47	42.13	2.094	10	84.26	Good
Teacher Performance	53	35	44	40.87	1.891	10	81.74	Good
Valid N (listwise)	53							

Source: Primary Data, Processed by IBM SPSS 24.0, 2020.

From the table above it can be seen that each variable has an average of between 40.87% - 42.13% and Respondents Achievement Rate (TCR) between 81.74% - 84.26% with an average TCR of 83.46%. This can be interpreted that each respondent variable has a good average categorized response.

2. Validity Test

The validity test used is the Pearson Product Moment correlation technique by means of correlating the scores of each variable with the total scores. A variable / statement is said to be valid if the statement's score correlates significantly with the total score where the test uses the help of IBM SPSS version 24.0. To find out the validity of the questionnaire is done by comparing the r_{table} with the r_{count} . The validity test results of each variable can be seen in the table below:

Table 4. Validity test results

Item	r_{hitung}	r_{tabel}	Results
Teacher Performance (Z)	0.3952	0.2706	Valid
Competence (X_1)	0.4382	0.2706	Valid
Teacher Certification (X_2)	0.5106	0.2706	Valid
Work Motivation (Y)	0.4282	0.2706	Valid

Source: Primary Data, Results of IBM SPSS 24.0, 2020.

The known value of r_{count} for all items of variable statement is greater than r_{table} , meaning that all statement items are declared valid.

3. Reliability Test

Reliability test is used to determine the reliability of a variable. A variable is said to be reliable if it has a Cronbach Alpha greater or equal to 0.60 and if it is smaller than 0.60 then the variable is said to be unreliable. Where testing uses the help of the IBM SPSS program version 24.0. The reliability test results of the variables in this study can be seen in the following table:

Table 5. Reliability Test Results

No.	Variablee	Number of Valid Items	Cronbach's Alpha	Information
1	Competence (X_1)	10	0.662	reliable
2	Teacher Certification (X_2)	10	0.714	reliable
3	Work Motivation (Y)	10	0.648	reliable
4	Teacher Performance (Z)	10	0.690	reliable

Source: Primary Data, Results of IBM SPSS 24.0, 2020.

It is known that the Cronbach's Alpha value for all variables is greater than 0.6. The meaning is that the measuring instrument used of all variables in this study is reliable or trustworthy.

6. HYPOTHESIS TEST

Analysis of the results of the study was based on the formulation of the problem and the hypotheses put forward. And the analysis conducted in the discussion is based on data obtained through research which is then processed with the IBM SPSS version 24.0 program to determine the significance and magnitude of the

coefficient of influence of independent variables on the dependent variable through path analysis. Path analysis is a test used to analyze the pattern of relationships between variables. Path analysis is the use of regression analysis to estimate the relationship of causality between variables (causal models) that are predetermined based on theory.

1. Substructure Hypothesis Test I

To analyze the effect of competency variables (X_1) and teacher certification (X_2) on motivation (Y) which are put forward in the following table:

Table 6. Effect of X_1 and X_2 to Y

Effected Variable	Standardized coefficients	Sig
Competence (X_1)	1.087	0.000
Teacher Certification (X_2)	0.729	0.000

Source: Primary Data, IBM SPSS Data Processing Results Ver. 24.0, 2020.

Based on table 6 above, it can be seen the equation of substructure I, namely:

$$Y = 1.087X_1 + 0.729X_2$$

Substructure I equation description:

- $b_1 = 1.087$; it means that there is a positive effect between the competency variable (X_1) on work motivation (Y). this shows that the better the competency, the better the work motivation of the teacher.
- $b_2 = 0.729$; it means that there is a positive effect between the teacher certification variable (X_2) on work motivation (Y). this shows that the more help teacher certification, the more work motivation of teachers will increase.

From table 6, we can do a partial test of each cause variable on the effect variable as follows:

1. Effect of competence (X_1) on work motivation (Y)
The results of the analysis of the effect of the competency variable (X_1) on the work motivation variable (Y) obtained the value of $\rho_{YX_1} = 1.087$ with a significant level of $0.000 < 0.05$. The analysis showed that there was a significant effect between the competency variables on the work motivation of Vocational High School Teachers in Kerinci Regency.
2. Effect of teacher certification (X_2) on work motivation (Y)
The results of the analysis of the influence of teacher certification variables (X_2) on work motivation variables (Y) obtained value $\rho_{YX_2} = 0.729$ with a significant level of $0.000 < 0.05$. The analysis shows that there is a significant effect between the teacher certification variables on work motivation of Vocational High School Teachers in Kerinci Regency.

The results of substructure I can be shown in the following image:

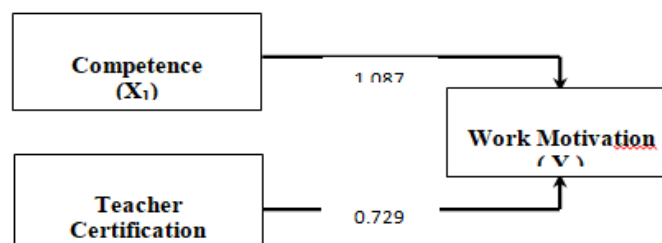


Figure 5. Model I – Substructure I

The summary of the first and second hypothesis testing can be shown in the following table:

Table 7. Summary of Hypothesis Testing Results Substructure I

Hypothesis	Statement	Results
H_1	Competence has a significant effect on work motivation of Vocational High School Teachers in Kerinci Regency.	Accepted
H_2	Teacher certification has a significant effect on work motivation of Vocational High School Teachers in Kerinci Regency.	Accepted

Source: Primary Data, IBM SPSS Data Processing Results Ver. 24.0, 2020.

2. Substructure Hypothesis Test II

To analyze the influence of competency variables (X1), teacher certification (X2) and work motivation (Y) on teacher performance (Z) presented in the following table:

Table 8. Effect of X₁, X₂ and Y on Z

Effected Variable	Standardized coefficients	Sig.
Work Motivation (Y)	0.465	0.004
Competence (X ₁)	0.520	0.004
Teacher Certification (X ₂)	0.088	0.006

Source: Primary Data, IBM SPSS Data Processing Results Ver. 24.0, 2020.

Based on table 8 above, it can be seen the equation of substructure II, namely:

$$Z = 0.465Y + 0.520X_1 + 0.088X_2$$

Substructure II equation description:

b₁ = 0.465; it means that there is a positive effect between work motivation variables (Y) on teacher performance (Z). this shows that the better the motivation, the better the teacher's performance will be.

b₂ = 0.520; it means that there is a positive effect between the competency variable (X₁) on teacher performance (Z). this shows that the better the competency, the better the teacher's performance will be.

b₃ = 0.088; it means that there is a positive effect between the teacher certification variable (X₂) on teacher performance (Z). this shows that the more help teacher certification, the better the teacher's performance will be.

From table 8 we can do partial tests of each of the cause variables on the effect variables as follows :

1. Effect of work motivation (Y) on teacher performance (Z)
The analysis shows that the Sig. 0.004 < 0.05. This can be interpreted that there is a significant effect between work motivation on performance of Vocational High School Teachers in Kerinci Regency.
2. Effect of competence (X₁) on teacher performance (Z)
The analysis shows that the Sig. 0.004 < 0.05. This can be interpreted that there is a significant effect between competence on performance of Vocational High School Teachers in Kerinci Regency.
3. Effect of teacher certification (X₂) on teacher performance (Z)
The analysis shows that the Sig. 0.006 < 0.05. This can be interpreted that there is a significant effect between teacher certification on performance of Vocational High School Teachers in Kerinci Regency.

The results of substructure II can be shown in the following figure:

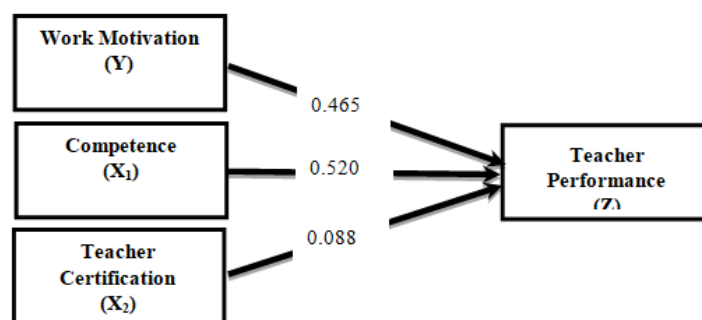


Figure 6. Model II – Substructure II

The summary results of testing the third, fourth and fifth hypotheses can be shown in the following table:

Table 9. Summary of Hypothesis Testing Results Substructure II

Hipotesis	Statement	Results
H ₃	Motivation has a significant effect on performance of Vocational High School Teachers in Kerinci Regency.	Accepted
H ₄	Competence has a significant effect on performance of Vocational High School Teachers in Kerinci Regency.	Accepted
H ₅	Teacher Certification has a significant effect on performance of Vocational High School Teachers in Kerinci Regency.	Accepted

Source: Primary Data, Author Processed in 2020.

3. Path Analysis

Intervening is an intermediate variable that mediates the relationship between the independent variable and the dependent variable. The research model provides an indirect effect of competency and teacher certification on teacher performance through motivation. Intervening test is carried out using path analysis as follows:

1. Work motivation plays acts as an intervening variable between the competence and performance of Vocational High School Teachers in Kerinci Regency. To determine the effect of an independent variable to the dependent variable directly or indirectly, it can be seen as follows:

- a. The direct effect of variable X_1 to Z

$$Z \leftarrow X_1 \rightarrow Z = (\rho_{ZX_1}) \times (\rho_{ZX_1}) \\ = (0.520) \times (0.520) = 0.2704 = 27.04\%$$

- b. The indirect effect from X_1 to Z through Y

$$Z \leftarrow X_1 \rightarrow Y \rightarrow Z = (\rho_{ZX_1}) \times (\rho_{YX_1}) \times (\rho_{ZY}) \\ = (0.520) \times (1.087) \times (0.465) = 0.2628 = 26.28\%$$

Based on the above calculation, it is obtained that the direct effect of competence on teacher performance is 0.2704 (27.04%), while the indirect effect of competency variables on teacher performance through motivation is 0.2628 (26.28%). From these results it can be concluded that work motivation variable cannot act as an intervening variable in the relationship between competence and performance because the coefficient value is smaller than the direct effect ($0.2628 < 0.2704$).

2. Work motivation plays acts as an intervening variable between teacher certification and performance of Vocational High School Teachers in Kerinci Regency. To determine the effect of an independent variable to the dependent variable directly or indirectly, it can be seen as follows:

- a. The direct effect of variable X_2 to Z

$$Z \leftarrow X_2 \rightarrow Z = (\rho_{ZX_2}) \times (\rho_{ZX_2}) \\ = (0.088) \times (0.088) = 0.0077 = 0.77\%$$

- b. The indirect effect from X_2 to Z through Y

$$Z \leftarrow X_2 \rightarrow Y \rightarrow Z = (\rho_{ZX_2}) \times (\rho_{YX_2}) \times (\rho_{ZY}) \\ = (0.088) \times (0.729) \times (0.465) = 0.0298 = 2.98\%$$

Based on the above calculation, it is obtained that the direct effect of teacher certification on teacher performance is 0.0077 (0.77%), while the indirect effect of teacher certification variables on teacher performance through motivation is 0.0298 (2.98%). From these results it can be concluded that work motivation variable can act as an intervening variable relationship between teacher certification and performance because the coefficient value is greater than the direct influence ($0.0298 > 0.0077$).

Based on the results of path analysis, the following sixth and seventh hypothesis test results can be obtained as follows:

Table 10. Summary of Path Analysis Testing Results

Hypothesis	Statement	Results
H ₆	Competence has a significant effect on performance with work motivation as an intervening variable on Vocational High School Teachers in Kerinci Regency.	Rejected
H ₇	Teacher Certification has a significant effect on performance with work motivation as an intervening variable on Vocational High School Teachers in Kerinci Regency.	Accepted

Source: Primary Data, Author Processed in 2020.

Path structure of the results of this study can be described again as follows:

4. Coefficient of Determination (R²)

The results of the calculation of the coefficient of determination for the equation of substructures I and II can be shown in the following table:

Table 11. Result of Calculation Determination Coefficient

Equation	Variable Relationship	R Square
Substructure 1	Competency and Teache Certification on Work Motivation	0,425
Substructure 2	Work Motivation, Competence and Teacher Certification on Teacher Performance	0,317

Source: Primary Data, IBM SPSS Data Processing Results Ver. 24.0, 2020.

Based on table 11, the total R^2 values can be calculated as follows:

1. For substructure equation I
 $P_{\varepsilon_1} = \sqrt{1 - R^2} = \sqrt{1 - 0.425} = \sqrt{0.575}$
 $P_{\varepsilon_1} = 0.758$
2. For substructure equation II

$$P_{\varepsilon_2} = \sqrt{1 - R^2} = \sqrt{1 - 0.317} = \sqrt{0.683}$$

3. Total $R^2 = 1 - (0.758 \times 0.826) = 1 - 0.626 = 0.374$

From the above results obtained a total determination coefficient of 0.374. This means that 37.4% of performance can be explained by variables of competence, teacher certification and work motivation. While the remaining 62.6% is explained by other variables not examined in this study. Because the value of R^2 is close to 0 (zero) means the ability of independent variables (competence, teacher certification, and motivation) in explaining the variation of the dependent variable (performance) is very limited.

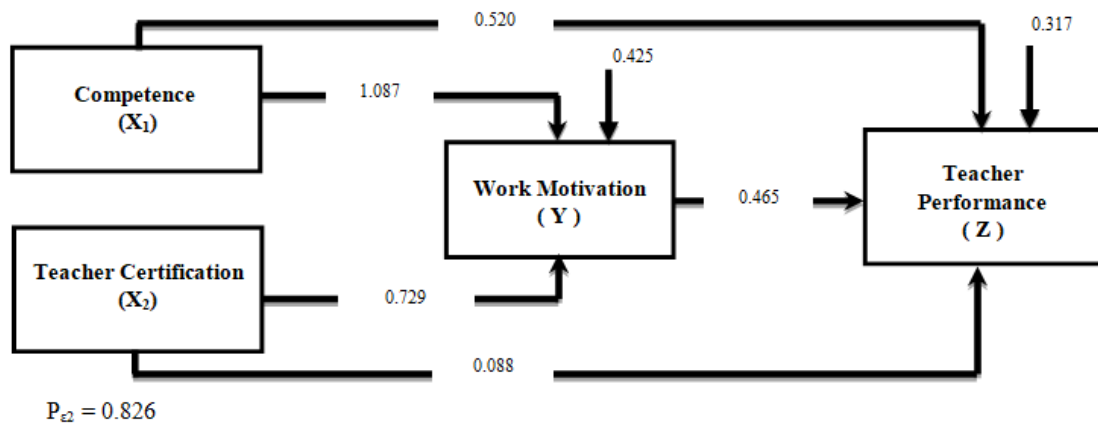


Figure 7. Path Analysis Model

7. CONCLUSIONS AND SUGGESTIONS

1. Conclusions

Based on the results of research and data processing that have been done before, some conclusions can be drawn as follows:

a. Competence has a significant effect on work motivation
 b. Teacher Certification has a significant effect on work motivation
 c. Work motivation has a significant effect on performance
 d. Competence has a significant effect on performance
 e. Teacher Certification has a significant effect on performance
 f. Competence has no significant effect on performance with work motivation as an intervening variable
 g. Teacher Certification has a significant effect on performance with work motivation as an intervening variable in Vocational High School Teachers in Kerinci Regency.

2. Suggestions

Based on the findings and conclusions of the study. For a reason the authors propose the following:

- a. Researchers suggest to the Vocational High School Teachers in Kerinci Regency to be able to provide equal opportunities to all students to participate in the learning process.
- b. Researchers suggest to the Vocational High School Teachers in Kerinci Regency to be able to develop the potential or ability in students.
- c. The researcher suggests to the Vocational High School Teachers in Kerinci Regency to ensure that students understand what has been taught in the learning process.
- d. Researchers suggest to the Vocational High School Teachers in Kerinci Regency to explain all kinds of activities carried out by students.

- e. Researchers suggest to the Vocational High School Teachers in Kerinci Regency to be able to use their knowledge in solving problems that occur.
- f. Researchers suggest to the Vocational High School Teachers in Kerinci Regency to be able to work well and as much as possible.
- g. Researcher suggests to the Vocational High School Teachers in Kerinci Regency to be able to work professionally in accordance with the applicable provisions in the school.

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INFO:-

Corresponding Author: Yulina Eliza, Sekolah Tinggi Ilmu Ekonomi "KBP" Padang, Sumatera Barat, Indonesia.

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