

**THE INFLUENCE OF COMPETENCE, LEARNING METHODS,
INFRASTRUCTURE FACILITIES ON GRADUATE QUALITY
(CASE STUDY (VOCATIONAL HIGH SCHOOL) SMKN 5 BANDUNG
INDONESIA)**

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Abstract: The main objective of this research is to determine teacher competency requirements that support appropriate learning methods and be able to increase students' high learning desires and establish good learning facilities to determine the achievement of quality graduates and love knowledge. This study is expected to investigate how competencies, learning methods and ideal learning infrastructure can be used to improve students' understanding and comfort of teaching and learning processes that support intellectual quality and love knowledge. This notion arose after discovering that teaching practices for the affective domain were ineffective. Students learn to pass examinations, not to love knowledge. Experiments are conducted for 1 (one) year or 2 semesters, in January - December 2019, to determine the impact of learning experiences on students' academic achievement. The research sample consisted of 10 English teachers and 20 students from the Vocational High School. The students are divided into two groups; the control group (10 students) and the experimental group (10 students). Both groups were taught the same topic and learning objectives for 2 hour. However, the control group was taught using lecture slides, group discussions and closed with a question and answer session. Meanwhile, the experimental group is taught using new instructional instruments that adapt learning experiences that are appropriate to the curriculum. During the teaching session, the teacher observes student participation in all their activities and behavior during the lesson session. To complete this study, tests are conducted to see the impact of the learning experience on students' academic achievement.

Keywords: Competence, Learning Methods, Teaching, facilities and infrastructure

1. INTRODUCTION

So far education in Indonesia is still experiencing various challenges and problems. Any improvement efforts to improve the quality of education will not make a significant contribution without the support of qualified teacher performance, one of which is the performance of economics accounting teachers. Teacher performance is an effort made by teachers for results or work performance to be achieved in managing learning in accordance with the ability and facilities available in the environment where he works. The performance of English Language Teachers in

general can be seen from its main role or task, which is conducting teaching, including planning, implementing, evaluating and supervising learning. 55% or 20 English teachers continuously only apply lecture and assignment methods in delivering accounting economic learning materials

The problem is reinforced by the fact that there are still 10 lesson plans made by teachers wherein there is not accompanied by varied learning methods and learning media as a support. Actually the lecture and assignment method is not a bad learning method, but if it is done continuously it will make students feel bored and the learning objectives will be difficult to realize. Thus, the performance of English teachers will be maximized if the teacher always innovates in learning.

Another similar problem was also expressed by the Chair of the English MGMP during the interview, in some English MGMP meetings 44.68% or 21 English teachers still complained about obstacles in teaching, especially in evaluating learning.

Most teachers who have implemented the 2013 curriculum still find it difficult to develop instruments in making test questions because they must include 3 aspects namely cognitive, affective and psychomotor. As a result the teacher has not been able to evaluate students correctly. Obstacles experienced by these teachers will certainly inhibit the teacher to display good performance. For this reason, teachers need to understand the factors that can improve their performance. There are two factors that can affect teacher performance improvement, namely internal and external factors. Internal factors are factors that originate from within the teacher, one of which is teacher competence. Teacher competence is the ability of a teacher in carrying out his responsibilities as a good quality teaching staff. There are four competencies that must be possessed by a teacher, namely pedagogical competence, personal competence, social competence, and professional competence. These four competencies can be used by teachers as provisions to realize quality English learning. This means that teachers who have good competence can be said to have good performance. But seeing the problems that have been revealed before can also be said as problems of pedagogical competence and professional competence of teachers because they relate to the management of learning. Not only that, researchers also still find problems related to Teacher Competence when conducting observations and interviews, i.e. there are 38% of teachers who are often late for entering the class and there are 49% of teachers who are less active in participating in activities that can improve their competence or performance such as activities in the English MGMP. In addition to internal factors, teacher performance is also influenced by

external factors, namely factors originating from outside the teacher such as the Availability of School Infrastructure Facilities. School infrastructure referred to in this study is infrastructure that is directly related to the work of teachers, especially in the learning process. School facilities and infrastructure are needed by teachers as learning aids, Based on this description, the researcher is interested in examining "The Effect of Competence, Learning Methods, and School Infrastructure Facilities on the Quality of the discharge".

1.1. Competence

Teacher Competency a. Understanding Teacher Competency Competence (Rastodio, 2009) is a basic characteristic of a person relating to the performance of criteria that are effective and / or superior in a particular job and situation. According to Sariman (2009: 17), teacher competence is a set of knowledge, skills and behaviors that must be possessed, internalized, mastered, and realized by the teacher in carrying out his professional duties. Kepmendiknas No. 045 / U / 2002 (Sariman, 2009: 17) mentions competence as a set of smart and responsible actions in carrying out their duties in accordance with certain jobs. So, teacher competence can be interpreted as unanimity of knowledge, skills and attitudes that are tangible smart and responsible actions in carrying out tasks as learning agents. In the Republic of Indonesia Law on Teachers and Lecturers No. 14 of 2005 and National Education Minister Regulation No. 16 of 2007 concerning Academic Qualification Standards and Teacher Competencies, it was stated that teacher competencies consist of four competencies, namely:

1) Professional Competence According to the explanation of RI Law No. 14 of 2005, what is meant by professional competence is the ability to master the lessons broadly and deeply. Meanwhile according to Permendiknas (Regulatio of Ministry of Education) No. 16 of 2007, professional competence consisted of:

- a. Mastering the material, structure, concepts and scientific mindset that supports the subjects being taught.
- b. Mastering competency standards and basic competencies of the subjects being taught.
- c. Developing subject matter that is taught creatively.
- d. Develop professionalism in a sustainable manner by taking reflective actions.
- e. Utilizing information and communication technology to develop themselves.

2) Pedagogic Competence According to the explanation of RI Law No. 14 of 2005, what is meant by pedagogical competence is the ability to manage the learning of students. Meanwhile according to Permendiknas (Regulation of Ministry of Education) No. 16 of 2007, pedagogical competencies consist of:

- a. Mastering students' characteristics from physical, moral, spiritual, social, cultural, emotional, and intellectual aspects.
- b. Mastering learning theory and principles of learning that educate.
- c. Develop a curriculum related to the subjects being taught.
- d. Organizing educational learning.
- e. Utilizing information and communication technology for learning purposes.
- f. Facilitating the development of potential learners to actualize the various potentials they have.
- g. Communicate effectively, empathically, and politely with students.
- h. Carry out assessment and evaluation of learning processes and results. Utilizing the results of assessment and evaluation for the benefit of learning.
- i. Perform reflective actions to improve the quality of learning.

3) Personality Competence According to the explanation of RI Law No. 14 of 2005, what is meant by personality competency is personal ability that is steady, noble, wise and prudent and is an example for students. Meanwhile according to Permendiknas (Regulation of Ministry of Education) No. 16 of 2007, personality competencies consist of:

- a) Act in accordance with Indonesian national religious, legal, social and cultural norms.
- b) Present themselves as honest, noble, and role models for students and the community.
- c) Present themselves as a person who is steady, stable, mature, wise, and authoritative.
- d) Showing work ethic, high responsibility, pride in being a teacher, and self-confidence.
- e) Uphold the professional code of ethics of the teacher.

4) Social Competence According to the explanation of RI Law No. 14/2005, what is meant by social competence is the ability of teachers to communicate and interact effectively and efficiently with students, fellow teachers, principals, parents / guardians and the surrounding

community. Meanwhile according to Permendiknas (Regulation of Ministry of Education) No. 16 of 2007, social competence consists of:

- a. Be inclusive, act objectively, and not discriminate because of consideration of gender, religion, race, physical condition, family background, and socioeconomic status.
 - b. Communicate effectively, empathically, and politely with fellow educators, educational staff, parents, and the community.
 - c. Adapting to places of duty throughout the territory of the Republic of Indonesia which has socio-cultural diversity.
 - d. Communicate with the professional community itself and other professions verbally and in writing or other forms
- Based on the explanation above, it can be concluded that teacher competence is unanimity of knowledge, skills and attitudes in the form of intelligent actions and full responsibility in carrying out tasks as learning agents

1.2. Learning Method

According to Arnie (2005: 10) "Learning is a process of active student activity in constructing meaning or understanding, so students need to be given adequate time to carry out that process". "Factors that influence student learning achievement include learning methods and teacher performance. The learning method is a way to do or present, describe, give examples, and provide learning content to students to achieve certain goals ". (Martinis, 2009: 132)." Teacher performance is an embodiment of teacher competence that includes the ability and motivation to complete task and motivation to develop ". (Widoyoko S, 2012: 180). The problem of learning methods and teacher performance today needs to get serious attention because the quality of learning methods and teacher performance is quite alarming, other issues that need attention due to methods teacher learning and performance is a student's learning achievement that needs to be improved because each achievement has different characteristics and special characteristics.

1.3. Infrastructure facilities

- a. Definition of Learning Facilities Facilities are facilities and infrastructure that must be available to launch educational activities in schools. Facilities are all equipment, materials and furniture that are directly used for the education process at school, including buildings,

classrooms, learning media, tables and chairs. While infrastructure is a facility that indirectly supports the course of the educational process, including the school yard, school garden, and the road to school (Sopiatin, (2010: 73). Educational facilities are supporting facilities for the teaching and learning process. According to the team the standardization guidelines for educational media (Ministry of Education and Culture) referred to as educational facilities are all the facilities needed in the teaching and learning process, both mobile and non-mobile so that the achievement of educational goals can run smoothly, regularly, effectively, and efficiently. Broader facilities can be interpreted as anything that can be facilitate and launch the implementation of a business that can facilitate and launch this business can be in the form of objects or money, so in this case facilities can be equated with facilities (Arikunto, 2008: 273-374). Based on the above explanation, Learning Facilities are facilities and infrastructure that expedites the process teaching learning students so that educational goals can run smoothly, orderly, effectively, and efficiently.

- b. Types of Learning Facilities in Schools In terms of their function or role in the implementation of the teaching and learning process, the facilities or facilities can be divided into 3 types:
 - a. Learning Tools Learning tools are all objects that can be used directly by the teacher and students in the teaching and learning process. Notebooks, drawings, stationery or practical tools are all included in the scope of the lesson.
 - b. Props The props have a broader meaning. Teaching aids are all educational and teaching aids, which can be in the form of objects or deeds from the most concrete to the most abstract which can facilitate the provision of understanding to students. With this understanding, learning tools can be included in teaching aids, but not necessarily all learning tools are teaching aids.
 - c. Educational Media Educational media have another role than teaching aids. Educational media are educational facilities that are used as intermediaries in the teaching and learning process to enhance the effectiveness and efficiency of education, but can also be a substitute for the role of the teacher (Arikunto, 2008: 274)

1.4. Graduate Quality

According to Slamet in Idris (2005: 53), related to the quality of school graduates (output), it can be explained that school output is said to be of high quality, if school achievement, especially

student learning achievement, shows high achievement in the results of academic ability, namely test scores such as National Final Examination (UAN) and School Final Examination (UAS).

Sudradjad (2005: 17) states that quality education is education that is able to produce graduates who have the ability or potential, both academic and vocational competencies, which are based on personal and social competencies, as well as noble moral values, all of which are life skills (overall life skill), Sudradjad further stated that quality education is education that is able to produce complete human beings (plenary people) or people with integrated personalities, those who are able to integrate faith, knowledge, and charity.

The quality of education or school quality is aimed at the quality of graduates, which is impossible, education or schools produce quality graduates, if not through a quality education process as well. Quality education processes must be supported by personnel, such as administrators, teachers, counselors, and quality and professional administration. This is also supported by educational facilities and infrastructure, facilities, media and adequate learning resources, both in quality and in number, and adequate costs, proper management and a supportive environment (Sudjana, 2005: 6).

1.5. Characteristics of Graduates Quality

Usman (2006: 411) suggests 13 (thirteen) characteristics possessed by the quality of education, namely:

- 1) Performance (performance) that is related to the functional aspects of the school include: teacher performance in teaching both in providing convincing explanations, healthy and diligent teaching, and preparing complete instructional materials, administrative and educational services of good schools with good performance after becoming a vavorit school,
- 2) Fair time (timelines) that is in accordance with reasonable time includes starting and ending the lesson on time, the right test time,
- 3) Reliable, namely the service life lasts long. Includes excellent service provided by schools that last a long time from year to year, the quality of schools continues to survive and tends to increase from year to year,
- 4) Durability, namely resilience, for example despite the monetary crisis, schools still survive,
- 5) Beautiful (aesthetics) for example the exterior and interior of the school are arranged attractively, the teacher makes interesting educational media,

- 6) Human interface (personal interface), which upholds moral values and professionalism. For example school members respect each other, democracy, and value professionalism,
- 7) Easy of use, that is, facilities and infrastructure are used. For example school rules are easy to apply, library books are easy to borrow, returned on time,
- 8) Special forms (features), namely certain advantages, for example schools excel in mastering information technology (computerized),
- 9) Certain standards (conformance to specifications), namely meeting certain standards. For example schools meet minimum service standards,
- 10) Consistency, that is, panic, constant and stable, for example the quality of schools has not declined from the past until now, school residents are consistent with their words,
- 11) Uniformity (uniformity) that is without variation, not mixed. For example the school carries out rules, indiscriminately, uniforms in clothes,
- 12) Able to serve (serviceability), ie able to provide excellent service. For example schools provide suggestion boxes and suggestions that are entered are able to be fulfilled properly so that customers feel satisfied,
- 13) Accuracy, namely accuracy in service, for example schools are able to provide services in accordance with what school customers want.

In global competition, what also needs to be developed for a teacher is the mastery of foreign languages. By mastering a foreign language they will easily expand, deepen, and increase knowledge because it can absorb more information, both from books in foreign languages and via the internet to develop competence (Rivai and Murni, 2009: 901).

The teacher factor is one of the input variables that influences the achievement of the quality of learning. The learning process will show high quality if supported by all the readiness of the inputs including the maximum teacher performance in teaching and learning activities. Learning outcomes are not only one type but the kinds of things stated by Gagne in Nasution (1999: 63). Sudjana (2005: 42) in his research said that 76.6% of student learning outcomes were influenced by teacher performance, with details: teacher teaching competencies contributed 32.43%, mastery of subject matter contributed 32.38% and teacher attitudes toward subjects contributed 8.60%.

According to Mulyasa (2007: 37), there are at least 19 roles of teachers in educational activities, namely the role of teachers as: educators, instructors, mentors, trainers, advisors, reformers, models and role models, personal, researchers, promoters creativity, generating views,

routine workers , camp movers, storytellers, actors, emancipators, evaluators, preservatives, and as culminators.

To support this task, the teacher must have sufficient competence. Mulyasa (2007: 190) identified the competencies that must be possessed by teachers, namely basic abilities (personality), general abilities (teaching abilities), and special abilities (development of teaching skills). Basic abilities include: having faith and piety, having Pancasila insight, being fully responsible, being authoritative, being disciplined, being dedicated, socializing with the community, and loving students and caring for their education.

General abilities include: 1) mastering education and teacher training; 2) mastering the curriculum; 3) mastering general methodical didactics; 4) mastering classroom management; 5) able to carry out monitoring and evaluation of students; and 6) able to develop and self-actualize. While special abilities include: the skills to ask questions, provide reinforcement, hold variations, explain, open and close lessons, guide small group discussions, manage classes, and teach small groups and individuals

2. METHODS

This research is an ex-post facto research that is research that reveals data without giving treatment to the studied variables. The purpose of this study was to determine the effect of teacher competence and learning facilities on student motivation and learning achievement in economic subjects at the 5th National High School in Bandung. The approach used in analyzing the data of this study uses a quantitative approach. Quantitative approaches are used to measure independent and dependent variables by using numbers that are processed through statistical analysis. This research is more on students' perceptions of teacher competencies and learning facilities on their motivation and learning achievement, because in this study there are intermediate variables namely learning method, the analysis used is path analysis. The population in this study were students of Vocational High School 5 Bandung in 2018/2019 academic year who received English subjects with a population of 30 students and all of them were sampled using the census method

2.1 Data Analysis Techniques

2.1.1. Test Prerequisite Analysis

a. Normality test

Normality test is performed to determine whether the data have a normal distribution or not have a normal distribution. Testing by using the critical ratio skewness value. Where said to be normal if c.r. skewness of $1.96 < c.r. < 1.96$ at significance level of 5% (Umar, 2011: 186).

b. Linearity Test

Linearity test is used to find out whether the relationship between the independent variable and the dependent variable is linear. Criteria which used is the F test. If the sig F value is less than 0.05 then the relationship is not linear, whereas if the value of sig F greater than or equal to 0.05 then the relationship is linear (Muhson, 2009).

c. Multicollinearity Test

Multicollinearity test is used to find out whether or not deviations from the classic assumption of multicollinearity are linear relationship between independent variables in the regression model. The prerequisites that must be fulfilled in the regression model are no the presence of multicollinearity. To test whether multicollinearity occurs between variables free by investigating the amount of intercorrelation between variables independent. Multicollinearity can be detected in the Inflation Variance value Factor (VIF). If the VIF value is less than 4, then no multicollinearity occurs, whereas if the VIF value is more than 4 then multicollinearity occurs (Muhson, 2009).

2.1.2. Data Analysis

Data that has been collected is then carried out path analysis (Path Analysis). Path analysis is the development of regression analysis, and used to describe and test the relationship between variables in the form of cause and effect (Ghozali, 2008: 21). Analysis of this pathway done with AMOS version 21. The steps are as follows:

a. Assessing Goodness of Fit Criteria

Before evaluating the feasibility of the structural model, the step that must be taken is to assess whether the data to be processed meets the structural equation model assumptions.

1) Basic Assumptions Test

The basic assumptions that must be met in the data collection and processing procedures analyzed by Structural Equation Modeling (SEM) modeling are as follows:

- a) Observation of independent data.
- b) Respondents are taken randomly.
- c) Has a linear relationship. In addition, normality and multicollinearity tests were also carried out (Ghozali, 2008: 65).

2) Offending Estimate Test

This test is conducted to see whether there is an Offending Estimate, that is, the estimated coefficient both in the structural model and other measurement models above the acceptable limit. The occurrence of Offending Estimate is shown by:

- (a) Variance error is negative or non significant error variance for the construct.
- (b) Standardized coefficient which is close to 1.0.
- (c) There is a high standard error. If there is an Offending Estimate, the research must eliminate it first before evaluating the feasibility of the model (Ghozali, 2008: 65).

3) Overall Model Fit Rating

Overall Model Fit Rating measures the suitability of observational or actual inputs (covariance matrix or correlation) with the predictions of the proposed model. In this assessment uses a measure of goodness of fit, namely:

a) Likelihood-Ratio Chi-Square Statistics

The fundamental measure of overall fit is the likelihood ratio chi-square (χ^2). The high chi-square value relative to the degree of freedom shows that the covariance matrix or the correlation observed with the predicted is significantly different and this results in a probability (P) smaller than the level of significance (α). Conversely, a small chi-square value will produce a probability value that is greater than the level of significance and this shows that the input covariance matrix between predictions and observations actually do not differ significantly. In this case, the researcher must look for a non-significant chi-square value because he expects the proposed model

to fit with observational data. Or in other words the expected chi-square value is small (Ghozali, 2008: 66).

b) GFI (Goodness of Fit Index)

Goodness of Fit Index is a non-statistical measure whose values range from 0 (poor fit) to 1 (perfect fit). A high GFI value indicates better fit. The recommended value is ≥ 0.90 . The AMOS program will give a GFI value with the `\ gfi` command (Ghozali, 2008: 67).

c) RMSEA (Root Mean Square Error of Approximation)

Root Mean Square Error of Approximation is a measure that tries to correct the tendency of chi-square statistics to reject a model with a large sample size. RMSEA value <0.05 is a measure of good fit, while <0.08 is a measure of reasonable fit (Armando Luis Vieira, 2011: 14). The AMOS program will provide an RMSEA value with the `\ rmsea` command.

d) AGFI (Adjusted Goodness-of-Fit Index)

AGFI is an analog of R^2 in multiple regression. Both GFI and AGFI are criteria that take into account the weighted proportions of variants in a sample covariance matrix. Expected AGFI of ≥ 0.90 . The AMOS program will give a GFI value with the command `\ agfi` (Ghozali, 2008: 67).

b. Build a Path Chart

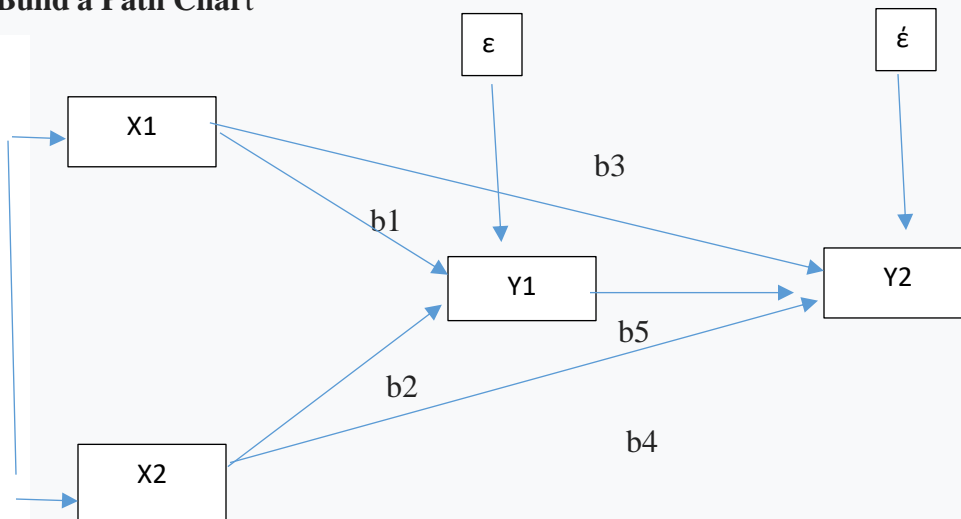


Figure 1: Path Diagram

Note:

X1 = Competency

X2 = Learning Facilities

Y1 = Learning Methode

Y2 = Learning Achievement

b = path coefficient

e = error (measurement error)

→ = regression relationship

↔ = correlation correlation

c. Translating Path Diagrams into Structural Equations

After developing theoretical models and pouring them into path charts, the researcher is ready to translate into structural equations. The steps translate according to Ghozali (2008: 22) ie each endogenous construct is a dependent variable in a separate equation.

$$Y_1 = b_1X_1 + b_2X_2 + e^1$$

$$Y_2 = b_3X_1 + b_4 X_2 + b_5Y_1 + e^2$$

d. Translating Hypotheses

How to translate hypotheses by looking at the critical ratio (C.R) and with a probability value with a t-table significance level amounted to 1.995 and 0.05. The hypothesis is accepted if the value of C.R > 1.995 and the probability value < significance level 0.05. Instead, hypothesis rejected if the value of C.R < 1.995 and the probability value > level significance of 0.05 (Ghozali, 2008: 98).

e. Assess the magnitude of the path coefficient

To find out the value of the path coefficient (path coefficients) seen from the estimated value in the standardized regression weights. The magnitude of the value of the path coefficient shows the magnitude the influence of exogenous variables on endogenous variables.

3. RESULT AND DISCUSSION

3.1 RESULT

3.1.1 Normality test

Normality test is done to find out whether the data is normally distributed or abnormal distribution. Tests using the value of the critical ratio skewness and kurtosis. Where is said to be normal if $c.r. \text{ skewness of } -1.96 < c.r. < 1.96$ at a significance level of 5%. The results of the normality test for each study variable are presented below

Table 1. Result of Normality Test

Variabel	<i>min</i>	<i>max</i>	<i>skew</i>	<i>c.r.</i>	<i>kurtosis</i>	<i>c.r.</i>
Infrastructue	42,000	79,000	-,109	-,568	-,267	-,695
Competence	56,000	95,000	-,389	-2,025	-,044	-,114
Learning Methode	39,000	70,000	-,189	-,983	-,462	-1,204
Quality Graduate	50,000	95,000	-,146	-,761	-,662	-1,726
Multivariate					-,491	-,452

Source: Primary Data Processed, 2019

3.1.2 Linearity Test

The purpose of the linearity test is to determine whether the independent variable and the dependent variable have a linear effect or not. Linearity testing criteria is if the value of F_{count} is smaller than F_{table} at a significance level of 0.05, then the relationship between independent variables to the dependent variable is linear. The results of the linearity test summary are presented below:

Table 2. Result of Linearity Test

Variable	df	Price of F		Sig.	Note
		Account	Table (5%)		
Competence <input type="checkbox"/> Learning Methode	31:130	1,312	1,539	0,149	Linear
Infrastructure <input type="checkbox"/> Learning Methode	29:132	0,950	1,553	0,545	Linear
Competence <input type="checkbox"/> Graduate Quality	31:130	1,278	1,539	0,173	Linear
Infrastructure <input type="checkbox"/> Graduate Quality	29:132	0,564	1,553	0,963	Linear

Learning Methode □ Graduate Quality	24:137	1,500	1,597	0,077	Linear
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Source : Primary Data Processed, 2014

The linearity test results above indicate that $F_{count} < F_{table}$ and $significance > 0.05$; so all of these variables can be said to be linear.

3.1.3 Multicollinearity Test

Multicollinearity test was conducted to determine the amount of intercoleration between independent variables in this study. If there is a correlation, then there is a problem called multicollinearity. To detect the presence or absence of multicollinearity can be seen in the value of tolerance and VIF. If the tolerance value is above 0.1 and the VIF value is below 4, there will be no multicollinearity. The results of the multicollinearity test for the regression model in this study are presented in the table below

Table 3. Result of Multicolinierity Test

Model	Variable	Tolerance	VIF	Conclusion
Model 1	Competence	0,904	1,106	Multicolinierity Not Accur
	Infrastructure	0,904	1,106	Multicolinierity Not Accur
Model 2	Competence	0,844	1,185	Multicolinierity Not Accur
	Infrastructure	0,805	1,242	Multicolinierity Not Accur
	Learning Methode	0,782	1,279	Multicolinierity Not Accur

Source: Primary Data Processed 2014

From table 3 above it appears that all variables have a VIF value of less than 4, so it can be concluded that the regression model in this study did not occur multicollinearity.

3.1.4. Data Analysis

Data that has been collected is then analyzed by path (Path Analysis). Path analysis is the development of regression analysis, and is used to describe and test the relationship between variables in the form of cause and effect (Ghozali, 2008: 21). This path analysis is carried out with the AMOS version 21 program. The steps are as follows:

a. Offending Estimate Test

This test is conducted to see whether there is an Offending Estimate, that is, the estimated coefficient both in the structural model and other measurement models above the acceptable limit. The occurrence of Offending Estimate is shown by:

1) Positive error variance value

The variance error value is used to indicate poor model fit in the extreme big or small category. If the standard error is close to zero, then the statistical test for the parameter cannot be defined, as well as the extremely large error variance value, then the parameter cannot be determined. The results of the analysis to find out the value of the variance error are presented as follows:

Table 4. *Variance Error*

	Estimate	S.E.	C.R.	P
Competence	72,149	8,017	9,000	***
Infrastructure	59,490	6,610	9,000	***
e ₁	42,109	4,679	9,000	***
e ₂	69,014	7,668	9,000	***

Source: Primary Data Processed 2019

In table 4 above shows that the variance error in the estimate column is not negative, that is, e₁ is 42.109 and e₂ is 69.014; this shows that poor model fit is in the small category. 1) Standardized Coefficient Standardized coefficient is used to find out whether there is a negative variant value or so-called heywood case. Heywood case is a situation where an incorrect model specification occurs. This is due to data outliers, the small size of the sample (<100 or <150). If the standardized coefficient seen in the estimate column is far from the data 1, the regression model analyzed does not occur in the heywood case. The analysis results to determine whether or not the heywood case is presented are as follows:

Table 5. *Standardized Regression Weights*

	Estimate
Learning Methode <--- Competence	,248
Learning Mathode <--- Infrastructure	,327
Graduate Quality <--- Learning Methode	,284
Graduate Quality <--- Competence	,268
Graduate Quality <--- Learning Methode	,228

Source: Primary Data Processed 2019

Table 5 above shows that the Standardized coefficient shown in the estimate column is

far from the number 1, so it can be concluded that the analyzed model does not occur in the heywood case.

2) Standard Error

There is no standard error that indicates a high value, where the values are far from close to 1, as shown in the table as follows:

Table 6 Regression Weights

	Estimate	S.E.	C.R.	P
Learning Methode <--- Competence	,214	,063	3,396	***
Learning Mathode <--- Infrastructure	,311	,070	4,472	***
Graduate Quality <--- Learning Methode	,398	,101	3,952	***
Graduate Quality <--- Competence	,325	,084	3,882	***
Graduate Quality <--- Learning Methode	,304	,094	3,219	,001

Source : Primary Data Processed 2019

Table 6 above shows that S.E. far from number 1 Based on the offending estimate test shows the estimated coefficient is at the acceptable limit, so that the next step can be done, namely overall model fit.

Table 7. Goodness of Fit Index

Goodness of Fit	Result of Analysis	Cut-off Value	Note
χ^2 (Chi-Square)	0,000	Expected to be small	Fit
GFI	-	\geq 0,90	-
AGFI	-	\geq 0,90	-
RMSEA	-	0,05-0,08	-

Source : Primary Data Processed 2019

Based on the analysis, goodness of fit indexes are obtained as follows:

1) Likelihood Ratio Chi Square

The most fundamental test tool is the chi square value. A small chi square value will produce a probability value that is greater than the level of significance and this shows that the input covariance matrix between predictions and observations is actually not significantly different. The chi square value in the model shows the number 0,000 which shows the model in research fit.

2) GFI

Goodness of Fit Index is a non-statistical measure whose values range from 0 (poor fit) to 1 (perfect fit). A high GFI value indicates better fit. The recommended value is ≥ 0.90 . At AMOS output does not show the GFI value.

3) AGFI

AGFI (Adjusted Goodness-of-Fit Index) is an analogue of R² in multiple regression. Both GFI and AGFI are criteria that take into account the weighted proportion of the variance in a sample covariance matrix. Expected AGFI of ≥ 0.90 . Based on the table above, AGFI does not indicate its value

4). RMSEA

Root Mean Square Error of Approximation is a measure that tries to correct the tendency of chi square statistics to reject a model with a large sample size. RMSEA values between 0.05 to 0.08 are acceptable measurements. At AMOS output which does not indicate the RMSEA value.

Based on the goodness of fit test, the value of chi square shows the model fit, whereas for GFI, AGFI, and RMSEA do not indicate the value. So, overall it can be said that the model is quite fit.

a. Path Chart

Based on the results of the path analysis, the development of the theoretical model can be poured into the following diagram path diagram:

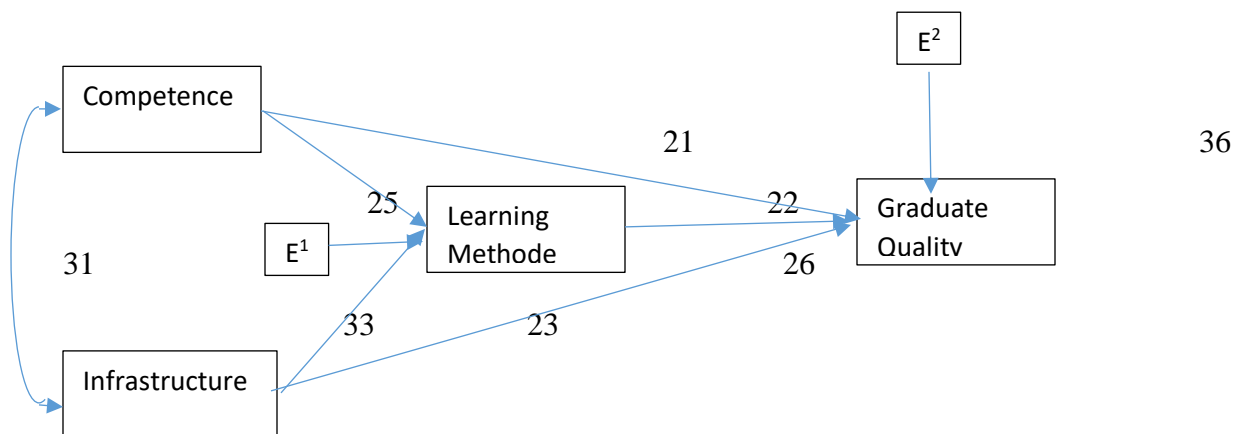


Figure 2 2. Analysis Path Chart

Note::

- X1= Competence
- X2= Infrastructurfe
- Y1= Learning Mathode
- Y2= Graduate Quality
- b= Path Coefficient
- e1= error for Variable of Learning Methode
- e2= error for Graduate Quality

b. Hypothesis test

By using AMOS 18.0 software the Output Regression is produced which is summarized in Table 7. If the value of $CR \geq 1.96$ or $P \leq 0.05$, the research hypothesis can be accepted.

Table 8. Output Regression Weights

<i>Variabel</i>	<i>Estimate regression</i>	S.E.	C.R	P	<i>Estimate Standardized regression</i>
Learning Methode □ competence	0,214	0,063	3,396	0,000	0,248
Learning Methode □ Infraststructure	0,311	0,070	4,472	0,000	0,327
Graduate quality □ Learning Methode	0,398	0,101	3,952	0,000	0,284
Graduate quality □ Competence	0,325	0,084	3,882	0,000	0,268
Graduate quality □ Graduate Quality	0,304	0,094	3,219	0,001	0,228

Source : Primary Data Processed 2019

c. Direct Influence and Indirect Influence

Based on the analysis conducted, obtained direct and indirect influences and their total effect, which are as follows:

Table 9. Direct Effects, Indirect Effects and Total Effects

Variable	Direct Effect		Not Direct Effect		Effect Total	
	Learning Methode	Graduate Quality	Learning Methode	Graduate Quality	Learning Methode	Graduate Quality
Infrastructure	0,327	0,228	0,000	0,093	0,327	0,321
Competence	0,248	0,268	0,000	0,070	0,248	0,338
Learning Methode	0,000	0,284	0,000	0,000	0,000	0,284

Source: Primary Data Processed 2019

The magnitude of the direct influence of Competence (X1) on the motivation of Learning Method (Y1) is 0.327. While the direct effect of Learning Method (Y1) on Graduate Quality (Y2) is 0.284. So the indirect effect from Competence (X1) to learning Method (Y1) then to Graduate Quality (Y2) is $0.327 \times 0.284 = 0.092868$ (rounding to 0.093). This shows there is an indirect effect of Competence (X1) on Graduate Quality (Y2) through Learning metode (Y1) which is equal to 0.093. While the magnitude of the total effect can be known by adding the amount of direct influence and indirect effect, that is $0.228 + 0.093 = 0.321$.

The direct effect of Infrastructure (X2) on Learning Mathode (Y1) is 0.248. While the direct effect of Learning Mathode (Y1) on Graduate quality (Y2) is 0.284. So the indirect effect from Infrastructure (X2) to Learning Method (Y1) then to Graduate Quality (Y2) is $0.248 \times 0.284 = 0.070432$ (rounding to 0.070). This shows that there is an indirect effect of Infrastructure (X2) on Graduate Quality (Y2) through Learning Mathode (Y1) which is equal to 0.070. While the magnitude of the total effect can be known by adding the amount of direct influence and indirect effect, namely; $0.248 + 0.070 = 0.338$.

3.2 Discussion

This study aims to examine the effect of teacher competence and infrastructure on the quality of graduates of the 5th High School Vocational in Bandung. Based on the research data analyzed, a discussion about the results of the study is carried out as follows:

3.2.1. Effect of Competence on Graduates Quality

Based on the results of the analysis note that there is a direct influence of teacher competence on the quality of graduates. This is evidenced by the Regression Weights test it is known that there is a positive effect of teacher competence on the quality of student graduates in English subjects, this is evidenced by the probability value of 0,000 less than 0.05 ($p < 0.05$), and the value of Standardized Regression Weights of 0.248; then this study succeeded in proving the first hypothesis which states that "There is a positive effect on teacher competence on the quality of graduate students in English subjects in Vocational High School 5 Bandung".

Motivation is the power that drives someone to do something to achieve the goal. These forces are basically stimulated by the existence of various needs. According to Uno (2007: 23) learning motivation is internal and external encouragement to students who are learning to make

changes in behavior, in general with several indicators or supporting elements. This has a big role in a person's success in learning.

One factor that influences learning motivation is teacher competency. Teacher competence is an extrinsic factor that influences learning motivation. Motivation is inseparable from the role of a teacher. The teacher must be able to arouse student interest in learning by utilizing his learning motivation. Teacher competencies with learning motivation are interconnected. Teacher competence can be used as extrinsic motivation for students. One of the teacher's competencies that can be used as extrinsic motivation for students is the teacher's pedagogical competence.

Based on table 10 on the Tabulation of Competence with Graduate quality above, it can be seen that teacher competencies in the very high category, supported by very high motivation to learn as many as 53 people (32.5%), competencies in the high category, supported by high learning methods as many as 44 people (32.5%), and teacher competency in the low category, supported by high learning methods as many as 8 people (4.9%).

According to the explanation of the Republic of Indonesia Law No.14 of 2005 Regarding Teachers and Lecturers, what is meant by pedagogical competence is the ability to manage learners' learning. A teacher manages good and interesting learning, for example using active and fun learning strategies so that students will feel happy and not feel bored so students will be motivated by the subjects delivered.

The results of this study support previous research conducted by Werdayanti (2008). The results showed the influence of teacher competence in the teaching and learning process in the classroom on the quality of graduates in the 5th Vocational High School Bandung received by 13.25%.

3.2.2. Influence of Infrastructure Facilities on the Quality of Graduates

Based on the analysis results it is known that there is a direct influence of the Infrastructure Facilities on the Quality of Graduates. This is evidenced by the Regression Weights test it is known that there is a positive effect of teacher competence on the quality of students' English graduates in the 5th Vocational High School Bandung. Test results on the Regression Weights parameter to determine the effect of Teacher Competence on the quality of English graduates obtained a probability value of 0,000 less than 0.05 ($p < 0.05$), and a Standardized Regression Weights value of 0.268; then this study succeeded in proving the second hypothesis which states that "There is a

positive influence of learning facilities on the quality of English language graduates of students at the Vocational High School 5 Bandung" supported.

Dimiyati and Mudjiono (2009: 94-195) suggested that learning behavior contained learning motivation. Learning motivation is intrinsic and extrinsic learning motivation. Intrinsic motivation is learning motivation that arises from the awareness and desire of students to gain experience, skills, and knowledge from within. While extrinsic motivation is learning motivation that arises not from students' awareness and desire to gain experience, skills and knowledge from within, but are influenced by the external environment.

Extrinsic factors of learning motivation can be learning facilities. Facilities are facilities and infrastructure that must be available to launch educational activities in schools. Facilities are all equipment, materials and furniture that are directly used for the education process at school, including buildings, classrooms, learning media, tables and chairs. While infrastructure is a facility that indirectly supports the course of the educational process, including the school yard, school garden, and the road to school (Sopiatin, 2010: 73).

Based on Table 11 about the infrastructure above, it can be seen that students who have infrastructure in the excellent category, have very high motivation to learn as many as 46 people (28.2%), students with good learning facilities, have high quality graduates in the high category as many as 46 people (28.2%), and students with adequate learning facilities, have learning motivation in the low category of 4 people (4.92.5%).

Educational facilities are supporting facilities for the teaching and learning process. According to the guidelines for the standardization of education media (Depdikbud) what is meant by educational facilities are all the facilities needed in the teaching-learning process, both those that are moving and those that are not moving so that the achievement of educational goals can run smoothly, regularly, effectively, and efficiently. Broader facilities can be interpreted as anything that can facilitate and launch the implementation of a business that can facilitate and launch this business can be in the form of objects or money. So in this case the facilities can be equated with the facilities (Arikunto, 2008: 273-374).

According to Arsyad (2006: 25-26), the use of learning facilities provides benefits to enhance and stimulate children's attention so that it can cause motivation to learn, more direct interaction between students and their environment allows students to learn on their own according to ability.

Besides Sopiadin (2010:78) states that existing learning facilities (learning media) will make teaching or learning more attractive to students so that they can foster motivation to learn.

The results of this study support previous research conducted by Werdayanti (2008). The results of this study indicate the influence of learning facilities on the quality of graduates. Infrastructure Learning facilities provide an effect of 10.96% on the quality of graduate students at the 5th Vocational High School Bandung

3.2.3. Effect of learning methods on the quality of graduates

Based on the results of the analysis note that there is a direct effect of learning methods on the quality of graduates. This is evidenced by the Regression Weights test to find out "There is a positive influence of learning methods on the quality of graduate students in English subjects in Vocational High School 5 Bandung". Test results on the Regression Weights parameter to determine the effect of learning methods on the quality of graduates obtained a probability value of 0,000 less than 0.05 ($p < 0.05$), and a value of Standardized Regression Weights of 0.327; then this research succeeded in proving the third hypothesis which states that "there is a positive influence of learning methods on the quality of graduate students in English subjects at the 5th Vocational High School i Bandung" supported.

According to WS Winkel (2004: 161) achievement is a real skill possessed by someone and is the result of the process carried out. Hamdani (2011: 137) added achievement is the result of an activity that has been done, created, both individually and in groups, and the attitude of someone in completing a thing.

Based on Table 12 Tabulation of Learning methode with graduate quality above it can be seen that students with the English learning method in the very high category, supported by the quality of graduates who are in the excellent category of 9 students (5.5%), students with learning methods English in the high category, supported by the quality of graduates who are in the very good category as many as 52 students (31.9%), students with English learning methods in the sufficient category, supported by the quality of graduates who are in the good category as many as 25 students (15 , 3%), students with English learning methods in the category of less, supported by the quality of graduates who are in good categories as many as 15 students (9.2%).

CONCLUSION

Based on the results of the analysis and discussion, the following conclusions can be drawn:

- 1) There is a positive direct effect between teacher competence on the quality of graduate students in English subjects at the 5th Vocational High School Bandung, as evidenced by a probability value of $0,000 < 0.05$, and a value of Standardized Regression Weights of 0.248. Thus the better the teacher's competence, the quality of student graduates increases.
- 2) There is a positive direct effect of infrastructure on the quality of graduate students in English subjects at 5th Vocational High School Bandung, as evidenced from the probability value of $0,000 < 0.05$, and the value of Standardized Regression Weights of 0.327. Thus the better the infrastructure, the better the quality of student graduates.
- 3) There is a positive indirect effect of infrastructure on the quality of graduate students in English subjects at the 5th Vocational High School Bandung, as evidenced from the probability value of $0.001 < 0.05$, and the value of Standardized Regression Weights of 0.228. Thus the better the infrastructure, the better the quality of student graduates.
- 4) There is an indirect positive effect on learning methods on the quality of graduate students in English subjects at the 5 Vocational High School Bandung, as evidenced from the probability value of $0,000 < 0.05$, and the value of Standardized Regression Weights of 0.284. Thus the better the method of learning, the quality of graduate students increases.

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