

THE INFLUENCE OF TEACHER'S MOTIVATION, COMPETENCY, AND WORK ENVIRONMENT ON THE EFFECTIVENESS OF VIRTUAL LEARNING OF THE JUNIOR HIGH SCHOOLS IN RANCAMAYA BOGOR YEAR 2020

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Abstract

This research aims to analyze the effect of teacher motivation, teacher competency, and teacher work environment on the effectiveness of virtual (distance) learning at some state-owned Junior High Schools located in marginal villages within the Bogor region in West Java Province as the densest population province in Indonesia. The research was conducted at 5 state-owned junior high schools located in marginal villages within the Bogor region in West Java Province, using a survey research method. Research respondents in five state-owned Junior High schools with a total of 100 teachers, selected based on cluster sampling technique (area sampling). The results showed that teacher motivation affects negatively and did not affect significantly the effectiveness of virtual learning, competency does not impact significantly the effectiveness of the virtual learning, and work environment does not significantly influence the effectiveness of virtual learning.

Keywords: teacher's motivation; competency; virtual learning; work environment

Received: 2021-10-20; Accepted: 2021-11-05; Published: 2021-11-20

Introduction

Under the Act of The Republic of Indonesia Number 20, the Year 2003 On National Education System, Article 3 mentioned that "The National Education functions to develop the capability, character, and civilization of the nation for enhancing its intellectual capacity, and is aimed at developing learners' potentials so that they become persons inspired with human values who are faithful and pious to one and only God; who possess morals and noble character; who are healthy, knowledgeable, competent, creative, independent; and as citizens are democratic and responsible" (Irawati & Susetyo, 2017).

It requires various efforts to bring up national education quality through teachers' professional development as a critical element in human resources development. The teacher plays a particularly important role in the teaching and learning process, as they are heavily involved in planning, organizing, and supervising the teaching and learning process. Teachers must be able to select and determine appropriate teaching methods

How to cite:	Ariesta. E., Arlina Arifin Djemahir & Ronny Rudolf Siahaan (2021) The Influence of Teacher's Motivation, Competency and Work Environment To The Effectiveness of Virtual Learning of The Junior High Schools In Rancamaya Bogor Year 2020. <i>Syntax Literate: Jurnal Ilmiah Indonesia</i> , 6(11). http://dx.doi.org/10.36418/Syntax-Literate.v6i10.4391
E-ISSN:	2548-1398
Published by:	Ridwan Institute

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that are suitable for job satisfaction and school climate, regulations, school education systems, principal leadership, and others.

The educational institute is also responsible for management activities such as feasibility studies, learning monitoring, teaching-learning activities. The mode of operation is typical of many schools; centrally produced learning materials, operation through groups attached to affiliated schools, learning support provided by the regular teachers. Such a system has several strengths: The learning material can be designed and developed to a common high standard; Operation through groups ensures that there is peer interaction and social learning amongst pupils; Pupils have access to regular contact with teachers; The syllabus and examinations are fully recognized; The system can easily be expanded by adding new groups (Yates & Bradley, 2000).

In the middle of March 2020, the physical distancing period due to the Covid-19 pandemic was enforced in all areas of Bogor and across Indonesia, causing many schools to be closed, so that children learn and do activities at home. However, learning activities must still be carried out between teachers and students. This situation forces digital interactions to interact with students and provide materials and assignments that students must do at home. In response to the condition of staying at home due to the Covid-19 pandemic, teachers are required to be able to present learning using technology or what we call virtual or e-learning learning.

E-learning is an educational activity or learning through electronic media in the form of a combination of network technology and multimedia combined with pedagogy and andragogy. E-learning is a learning process that can be delivered through internet technology supports. In e-learning, teachers provide learning materials that can be accessed online by students, establish communication, collaborate, conduct study evaluations, and manage other aspects of learning. In e-learning, teachers should be able to manage a series of interactions involving students, teachers, and electronic content.

The relationship among environment, motivations, and competencies play a critical role in the process of Virtual Learning systems right now. The performance of effectiveness of Virtual Learning shall develop from the perspective of attempts to influence the human environment, motivations, and competencies. "Virtual learning environments have been associated with formal learning and with relationships between teachers, students, and school. There is an increasing interest in the virtual learning environments supported by the internet" (Alves, Miranda, & Morais, 2017).

Learning environments based on the use of technology and digital resources are mediators in the learning process through the activities they allow. "This is because they facilitate interaction and interrelation within a continuous communication process, thus enhancing the construction and reconstruction of knowledge and meanings as well as the formation of habits and attitudes within a framework that is common to all the ones involved in the educational process" (Becerra, García, & Chávez, 2011).

Through, "Virtual learning environments enable learning to take place according to the elements present in the learning environment, based on a continuous scale ranging from the elements specified in the environment to the elements emerging from use"

(Zitter, De Bruijn, Simons, & Ten Cate, 2011). “The learning interaction occurring within the classroom are complex by nature, but the use of virtual learning environments enables the obtainment and the processing of large quantities of data from each interaction between the several players in the process” (Agudo-Peregrina, Iglesias-Pradas, Conde-González, & Hernández-García, 2014).

Through virtual learning environments, there is have had great relevance in the support and promotion of formal education, since it is informal education institutions that the educational guidelines and curricula of each country are implemented. The concept of innovation, which is used in current society, implies a need for change or renovation, or a need for doing something new.

“The role way for teachers in the e-learning environments is very important. “What is the role of teachers in e-learning systems” are very important to answer to estimate the productivity of systems” (Johnson, 1991). When we think about the role of the teacher in the learning environment it could be suggested that the importance of the teacher is growing. The educators’ afford should be more intensive to the adaptation of new learning environments. More importantly, teachers also will be a point of decision making when they need to teach any course in e-learning. These decisions possibly would be about “How to put any course online with an effective way to engage students into the learning?” and “What technologies and tools are available to implement the teaching?”. Hence the researchers are interested to study the teacher motivation, competency, and work environment that may influence the effectiveness of virtual or e-learning.

Based on the description above then raised the researcher's intention to research with the title, "The Influence of Teacher Motivation, Competency and Work Environment on the Effectiveness of Virtual Learning in 5 (five) state-owned Junior High Schools located in marginal villages within the Bogor region in West Java Province as the densest population province in Indonesia in the Year 2020."

Built upon the existing knowledge of expectancy theories of motivation and combined it with other motivational domains as well as other areas of organizational behavior such as individual differences, attitudes, personality, and environmental variables, among others, to create a model that can represent an overall organizational behavior process (Naylor, Pritchard, & Ilgen, 2013). “NPI theory explains motivation as the process that determines how one’s energy and time (i.e. resources) are used to satisfy needs” (Latham & Pinder, 2005). While the P-A Theory of Motivation has its origins within NPI theory. Figure 1 is a model of the P-A Theory of Motivation including the five main components of the motivation process: actions, results, evaluations, outcomes, and need satisfaction. For high levels of motivation, there must be a strong connection between actions and results, results and evaluation. The evaluations and outcomes, and outcomes and need satisfaction. Below, defined each of these components of the motivation process and how they relate to each other.

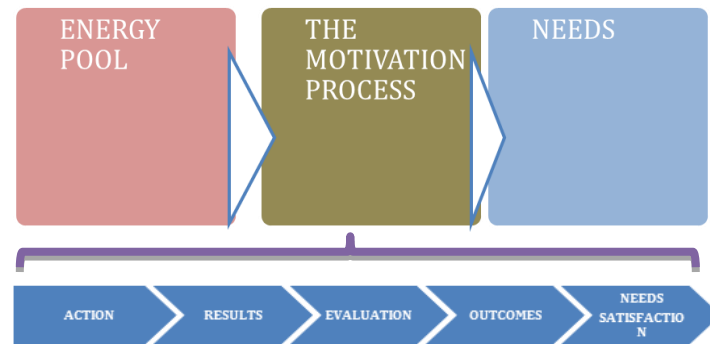


Figure 1
the Pritchard-Ashwood (2008) Theory of Motivation

The relationship between professional competence and motivation to achieve the optimum outcome need extra effort, will face problems concerning human resources. The gaps that were generally found were such low salary, inappropriate leadership style, the facility that supported the learning process, and also the low motivation of humans as well. “Empirical evidence shows that many teachers do not approach the task of teaching as a profession. Instead, most teachers view teaching jobs merely as a way to earn a salary every month; they do not approach the task of teaching as a career that requires one to attain several competencies as prerequisites to working professionally” (Sumantri & Whardani, 2017).

Researchers build on the action regarding the virtual learning research process involving three components that influence the result of learning. There were; Virtual learning work environment in charge of the teaching field, motivation of the teachers who were involved in that learning system, and the competencies among them as well.

Kurniawan, G. (2020, Oct 22). reported the Wahana Visi Indonesia and Kemendikbud survey results show that the majority of teachers in Indonesia prefer the distance learning model. 95 Percent of Teachers in Indonesia Prefer Distance Learning, The survey was conducted on 27,046 teachers and education personnel in 34 provinces throughout Indonesia. The survey was conducted from 18 August to 5 September 2020. In contrast, (Sumarno, Diana, & Musa, 2020) reported that The Bogor Regency Education Office (Disdik) admits that the online learning system is less effective. Researchers initiated a further study to know whether teacher conditions in some selected public junior high schools located in marginal villages in the Bogor region can affect the effectiveness of virtual learning.

The purpose of this research are: (1) to examine the effect of teacher motivation on the effectiveness of virtual learning in junior high school in marginal villages Rancamaya Bogor in the year 2020; (2) to examine the effect of teacher competency on the effectiveness of virtual learning in junior high school in marginal villages Rancamaya Bogor in the Year 2020; (3) to examine the effect of teacher working

environment to the effectiveness of virtual learning in junior high school in marginal villages Rancamaya Bogor in the Year 2020.

Method

Descriptive and verifiable analysis methods are used to find out how the teachers' motivation, competency, work environment affect the effectiveness of virtual learning in junior high school. (Nazir, 2011) explained verification method as "a method to determine causality relationship between variables through testing hypotheses with statistical calculation to obtain evidence whether the hypothesis is rejected or accepted." The verification method is used to determine how big the influence of teachers' motivation, competency, and work environment to the effectiveness of virtual learning at in state-owned Junior High School in Bogor.

The research was conducted in 5 (five) state-owned Junior High Schools located in marginal villages Rancamaya Bogor in West Java Province. The population of all teachers in observed villages totaling 100 teachers, with 70 teachers as samples who return complete questionnaires. This research was conducted from September 2020 to October 2020. Data collection techniques using documentation, questionnaires, interviews, and observations. In implementing the questionnaire method, the researcher makes written statements that require responses to both the suitability and inconsistency of the respondent's attitude.

Based on identified problems, there are 3 (three) independent variables being researched which consist of teacher's motivation, competency, and working environment, and 1 (one) dependent variable which is virtual learning. (Yani, n.d.) (Sugiyono, 2010) states "variable Independent (free/exogenous) is a variable that affects or causing changes or emergence of a dependent variable (bound/endogenous)." In this study, independent variables are motivation (X1), competency (X2), and working environment (X3), while dependent variable (Y) is " a variable that is affected or which become due, because of independent variables." In this study, virtual learning becomes a dependent variable.

According to (Yani, n.d.) population is a "generalization area that consists of object or subject with certain qualities and characteristics which were determined by researchers to be studied and drawn conclusions." In this study, the population is taken from all teachers from 5 (five) state-owned Junior High Schools located in marginal areas within the Bogor region with a total of 100 teachers as the population. The sampling technique is purposive sampling to determine samples under certain considerations. There were only 70 teachers who filled out the questionnaires out of 100 targeted teachers.

The data collecting method is a way of process to collect the data research, in this study is carried out by questionnaires with Likert scale, teachers interviews and documentation of data secondary. The data collection also involving through observing virtual program learning which was facilitated by teachers in school. there are four variables ie: teacher's motivation, competency, working environment of teachers that

affect the effectiveness of virtual learning in junior high schools in marginal villages within the Bogor region.

The data analysis technique used multiple correlation analysis, measurement model, the significance of the relationship and the value of R Square (R²), t-test, and hypothesis test. Hypothesis testing is done starting with testing the first hypothesis (t-test) in the form of the effect of variable X 1 (teacher motivation) to variable Y (the effectiveness of virtual learning), followed by testing the second hypothesis (t-test) in the form of the effect of variable X 2 (teacher competency) to variable Y (the effectiveness of virtual learning), followed by testing the third hypothesis (t-test) in the form of the effect of variable X 3 (teacher work environment) to variable Y (the effectiveness of virtual learning) then the fourth hypothesis testing (test F) in the form of the influence of the three variables X (teacher motivation, competency and working environment) to variable Y (virtual learning). From the fourth hypothesis, it is continued with the calculation of the coefficient of determination, relative contribution, and effective contribution which is used to determine how much the percentage of influence of the variables X 1 (teacher motivation), X 2 (teacher competency) and X 3 (working environment) on variable Y (effectiveness virtual learning).

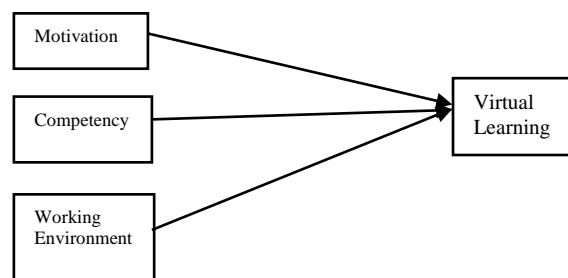


Figure 2
Research Model

Results and Discussion

The data presented is derived from 5 (five) Junior High schools from marginal villages at Rancamaya district within the Bogor region area in West Java Province. The research object is teachers who teach students using virtual learning. There are 100 respondents of which only 70 teachers completed questionnaires.

This study examines the effect of teacher motivation, teacher competency, and working environment on the effectiveness of virtual learning. the study assumes the direction latent variable (construct) heading to indicator, meaning the latent construct influences the measurement variations and the assumption of quality relationship latent construct to indicator.

The measurement results using Smart PLS generated latency variable latency (construct) as follows motivation, has indicator Skills improvement (A4); competency including Personality with noble character (B1), Pedagogy, Knowing student

characteristic (B2), Professional (B3), Social (B5); Working Environment including Teamwork (C3), Work Condition (C5).

The study explains the effect of 3 (three) latent variables: teacher motivation, teacher competency, and teacher working environment on the Effectiveness of Virtual Learning that led to five hypotheses as described in the previous chapter.

A. Evaluation of Measurement Model

Evaluation of measurement model is an evaluation to explain the relationship between the construct and its indicators. There are two stages of evaluation, namely convergent validity, and discriminant validity. The output is described in Figure 3.

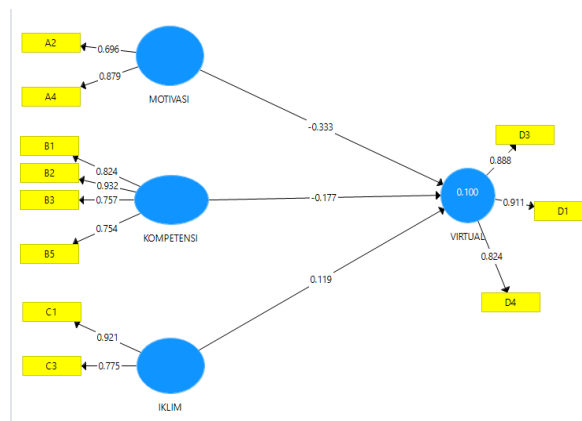


Figure 3
SmartPLS Output

The loading factor describes how much the indicators are related to each construct. Results have shown the relationship indicators with each construct. The second step is to look at Cronbach's alpha value and composite reliability with the following results:

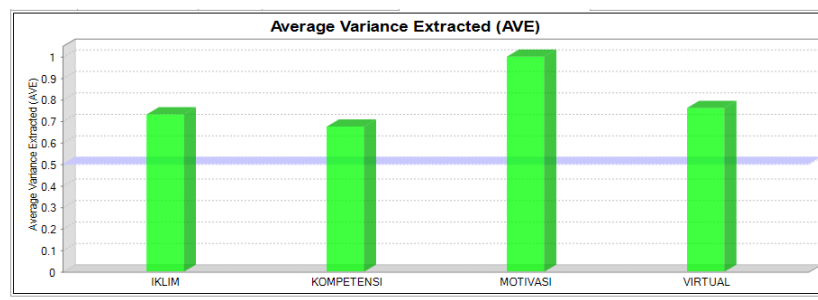


Figure 4
SmartPLS Results

The diagram shows the value of AVE that all latent variable latent figures above are 0,5 which means the measurement tool of each construct is highly correlated. After the evaluation of convergent validity is fulfilled, the next step is to check for

discriminant validity, which includes cross-loading and comparing it with the AVE root with the correlation between constructs. Here are the results of cross-loading.

	IKLIM	KOMPETENSI	MOTIVASI	VIRTUAL
A2	0.457	-0.024	0.696	-0.152
A4	0.624	-0.026	0.879	-0.229
B1	0.037	0.824	0.077	-0.111
B2	-0.078	0.932	-0.109	-0.211
B3	-0.152	0.757	-0.056	-0.069
B5	0.039	0.754	0.054	-0.100
C1	0.921	-0.082	0.512	-0.105
C3	0.775	0.031	0.738	-0.065
D1	-0.134	-0.198	-0.216	0.911
D3	-0.102	-0.078	-0.245	0.888
D4	-0.035	-0.171	-0.185	0.824

Figure 5
Cross loading indicators

The results of cross-loading all indicators highly correlated with each construct. From Table 4.1 we can see that indicator A2 & A4 has the highest correlation value on motivation. Indicators B 1, B 2, B3, B5, show the highest correlation value on competency. Indicators C1 and C3 have the highest correlation value on the working environment. They indicate that latent constructs predict self-indicator better than other latent indicators. So it can be concluded that data has met discriminant validity. (Yamin & Kurniawan, 2011) states "an indicator could be said that it has reliability if the value is more substantial than 0.7."

B. Structural Model Evaluation

The further step is to examine the structural model by measuring the significance of the relationship and the value of R Square (R²). The value of R² aims to determine how big the independent variable affects the dependent variable. The value of R² can be seen in Figure 6.

	R Square	R Square Adjus...
VIRTUAL	0.100	0.059

Figure 6
R Square Value

The R Square value of 1.00 means that the variability of the Virtual Learning construct can be explained by the constructs of motivation, competency, and working environment by 10 %. While the other 90 % is explained by other variables which are not covered in this study such as teacher readiness, teacher performance, quality

of the system, quality of information, individual impact, satisfaction, organization impact, etc (Jogiyanto, 2008).

Table 1
Hypothesis test

Variables	Path Coefficient	t Test	Results
Motivation	-0,333	1,954	Has influence on EVL
Competencies	-0,177	0,823	Has no influence on EVL
Work Environment	+0,199	0,653	Has no influence on EVL

EVL: effectiveness of virtual learning

From the data above, it can be seen from the relationship test between constructs shows that the constructs with the positive relationship only work environment variable, while competency and motivation variables have a negative relationship with the exogenous (independent) variable.

Further evaluation on the value of t statistic, the significance value of work environment is $0.671 < 1.96$ (value of significance) which can be concluded that work environment does not significantly influence the effectiveness of virtual learning. The significance value of competency is $0.892 < 1.96$, which means that the competency does not significantly affect the effectiveness of Virtual Learning. The significance value of motivation is $1.98 > 1.96$, which means that motivation significantly affects the effectiveness of virtual learning.

Conclusion

The school needs to organize regular teacher training on VL software, Information, and Communication Technology. The training should be closely monitored and evaluated by Schools and relevant government institutions. Improve the supporting facilities and infrastructures that enable schools in the marginal villages to have adequate information & communication technology access, reliable internet bandwidth, consistent internet service.

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