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The Influence of Principal Leadership on The Quality of Students' Learning in Kupang – Indonesia During Covid-19 Pandemic

Arnoldus Asan Meak[1], Tans Feliks[2], Ajis Djaha[3], Nursalam[4]

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Abstract

This paper aims to determine the partial and simultaneous influence of the principal leadership toward the students' learning quality at the vocational Schools in Kupang during the Covid-19 Pandemic. The method used in this writing was quantitative method using the SEM PlS Structural Equation Modelling Partial Least Square analysis. This approach used to analyze the students' learning quality at the vocational Schools in Kupang during the Covid-19 Pandemic. The technique of determining the number of samples in this study using simple random sampling. The result shows that from the results of the hypothesis testing, the t-statistic value was about 1,984. This value is greater than the t-table value which was about 1.96. The P value was about 0.048 which smaller than the alpha value which was about 0.05. Thus, it can be concluded that the principal leadership variable (X1) has a significant influence on the quality of learning (Y1). Thus, the hypothesis is accepted. Based on the results of this analysis, internal education policies in particular from eight vocational schools in Kupang during the Covid-19 pandemic need to pay attention to the importance of the principals' leadership role in determining the student learning quality.

1. Introduction

Long distance learning during the Covid-19 pandemic is a challenge in education in Indonesia (Sulistyono et al., 2023), especially in Kupang, East Nusa Tenggara. Some of these challenges are the uneven mastery of information technology among teachers and education staff, not all students can participate due to internet access problems, and the expensive of learning quotas. To overcome these

[1] *Nusa Cendana University, Kupang, Indonesia*
[2] *Nusa Cendana University, Kupang, Indonesia*
[3] *Nusa Cendana University, Kupang, Indonesia*
[4] *Nusa Cendana University, Kupang, Indonesia*

obstacles, the government issued several policies, such as (1) Circular of the Minister of Education, Culture, Research and Technology Number 4 of 2020 concerning Implementation of Education Policy During the Emergency Period of the Spread of Covid-19 and (2) No. 15 of 2020 concerning guidelines for implementing learning from home in the emergency period of the spread of covid-19.

In principle, every policy taken by the government rests on the quality of student learning itself. Thus, every school is required to have a professional educational administration in order to form human beings who are affectively intelligent, cognitively intelligent and psychomotor intelligent (Arafah et al., 2022). The quality of student learning can also be influenced by several elements including the implementation of public policies, namely regarding online learning, and online learning, and the leadership of the principal. According to Marce, dkk (2020), the principal's leadership is about educational leadership. In this case, a principal has the ability to lead in influencing school components to work totally in achieving a common goal, which related to improving the quality of education.

2. Theoretical Framework

Quality of learning

Quality can be interpreted in terms of effectiveness. Quality refers to the educational process and educational outcomes, which are reflected in cognitive, affectionate and psychomotor factors (Tammubua & Pattiasina, 2019). The quality of education process includes various inputs such as teaching materials, varied teaching methods, infrastructure in schools, administrative support and other resources and the creation of a conducive atmosphere.

Principal's leadership

The leadership of a principal in the view of public administration has a very strategic role and function to realize the objectives of the learning program (Kalangi et al., 2021). Marce et al. (2020) stated that the implementation of a principal's policy in education services includes 3 functions, namely as education administration, as education supervisor, and as education leader.

Hypothesis

The principal's leadership has a simultaneous and partial influence on the learning quality of learning of SMK Negeri students in Kupang during the Covid-19 pandemic.

3. Research Method

The method used in this study was quantitative research using SEM Pls (Structural Equation Modelling Partial Least Square). It was used to analyze the student learning quality at the eight Vocational Schools located in Kupang during the Covid-19 pandemic. The technique of determining the number of samples in this study using simple random sampling. The instruments used to collect the data were based on the Likert's scale. This instrument was used to measure the attitudes, opinions, and perceptions of a person or group of people about social phenomena that have been specifically determined by writer as research variables.

Descriptive Analysis

The use of descriptive analysis aims to provide an empirical description according to research data collection (Ferdinand, 2014). To calculate the perception of the response, the following formula was used: 100% x5 x II ( ) II () = --ppXPs.Ps (Levis, 2013).

Note

Ps-p	=	Perception category
XPs-p	=	Average score for population perception
5	=	Highest score on the Likert scale

Table 1. Predicate and Range of Descriptive Test Values

No	Maximum Score Achievement	Predicate Attitude Category
1	Highest	84-100
2	Higher	68-83
3	High	52-67
4	low	36-51
5	lowest	≤20-35

Inferential Statistical Analysis

The use of inferential statistics in this study is using SEM-PLs (*Structural Equation Model-Partial Least Square)* analysis. The purpose of partial least square is to obtain a powerful structural model for prediction purposes or to obtain latent variable values for prediction purposes.

Measurement/Outer Model

The measurement model is often referred to as the outer model, where this model is connected with all manifest variables. Ghozali (2020) divided 3 kinds of ways to test the Outer model, namely: (a) Individual Item Reliability Test, (b) Internal Consitency Test, and (c) Discriminant Validity Test.

Weighting Scheme

Narimawati, et al (2020) suggest that the weighting scheme was used to estimate the inner weight in the second step of the Partial Least Square algorithm. The initial weighting scheme used *controit* (arithmetic mean), next the weighting schemes used factorials and paths.

4. Results and Discussion

Descriptive Analysis

Based on the number of questioners worth analyzing from the results of table a to table f data, it can be seen that the average category of respondents' perceptions is very good even though in table

d and e data get good and very good categories rather diverse, but overall the response feels enthusiastic and very agreeable. In short, overall having a tendency to be more homogeneous, strongly agree with the quality of student learning.

Principal's leadership

Table 2. Responden's answer of Principle Leadership Variable (X1)

No	Questions	Total number of Respondents' Answer	XPsp-p/5	Ps-p/5×100	Perception Category
1	P1	339	3.49	69.90	Good
2	P2	344	3.55	70.93	Good
3	P3	343	3.54	70.72	Good
4	P4	345	3.56	71.13	Good
5	P5	413	4.26	85.15	Very good
	Total	1784	3,67	73,56	Good

(Source: Data of SEM PLS Processing Results, 2022)

Learning Quality

Table 3. The Responden's answer of Learning Quality Variable (Y1)

No	Questions	Total number of Respondents' Answer	XPsp-p/5	Ps-p/5×100	Perception Category
1	P1	437	4.51	90.10	Very good
2	P2	448	4.62	92.37	Very good
3	P3	451	4.65	92.99	Very good
4	P4	414	4.27	85.36	Very good
5	P5	407	4.20	83.92	Very good
Total		2157	4,44	88,94	Very good

(Source: Data of SEM PLS Processing Results, 2022)

The recapitulation results in table 2 shows that the number of respondents' answers regarding the principal's leadership was 1784 with an average score for population perception (XP-p/5) was about 3.67. The perception category (Xp-5) of the principal's leadership was about 73.56% and was categorized as good. Furthermore, for the quality of learning there are 2157 with an average score for the perception of the population (XP-p/5) namely 4.44. The perception category (Xp-5) of learning quality was 88.94% and was categorized as very good.

Inferential Statistical Analysis

Outer Model Testing

Abdillah, et al (2020) stated that the outer model is a test to measure the validity and reliability of a data. The outer model testing consists of convergent validity, average variance extracted, discriminant validity, composite reliability and Cronbach alpha.

Convergent Validity

Convergent validity aims to determine the validity of each relationship between indicators and constructs or latent variables. The convergent validity value is the loading factor value on the latent variable with an indicator that is greater than the expected value exceeds 0.7. In this study used a

loading factor limit of 0.70 and above. The results of the path analysis can be seen at the following scheme.



Scheme 1. Outer Model Convergen Validity Analysis
(Source: Primary Data Processing Results, 2022)

Henceforth, the output of Outer Loadings (Measurement Model) can be seen in following table.

Table 4. Outer Loadings analysis results (Measurement Model)

	Kepemimpinan kepala sekolah	Kualitas Belajar
KB1		0.915
KB2		0.922
KB3		0.728
KB4		0.865
KKS1	0.862	
KKS2	0.868	
KKS3	0.893	
KKS4	0.855	

(Source: Primary Data Processing Results, 2022)

Based on the Outer Model results in the table above the indicators of school principal leadership (X1) and learning quality (Y1) had a score 0.7, which means that they have fulfilled the Outer Loading value. With these, all indicators are declared valid to be used in this study.

Average Variance Extracted (AVE)

AVE was recommended as a criterion in assessing Convergent Validity. The standard of AVE value was greater than 0.5 which indicates a good Convergent Validity measurement. It means that, the latent variables can explain on average more than half of the variance of its indicators (Yamin and Kurniawan, 2019). AVE value can be shown in the following table.

Table 5. AVE Score

Variable	Average Variance Extracted (AVE)
Principal Leadership _X1	0.756
Learning Quality	0.742

(Source: Primary Data Processing Results, 2022)

In the table 5 above, it can be said that the Average Variance Extracted (AVE)'s score was greater than 0.5. So, it can be concluded that this study was feasible to be used or has fulfilled the requirements.

Composite Reliability

Composite Reliability was done by looking at the output from the coefficients view latent variable. The requirement to measure internal consistency was that the value must be greater than 0.7. The Composite Reliability value for each variable in this study can be seen in the following table.

Table 6. Composite Reliability Score

Variable	Composite Reliability
Principal Leadership _X1	0.925
Learning Quality_Y1	0.919

(Source: Primary Data Processing Results, 2022)

The result from the table above obtained a value which greater than 0.7, so it can be concluded that each construct in this study is feasible to use or has fulfilled the requirements.

Cronbach's Alpha

The reliability test was also seen from the cronbach's alpha value of each variable. The value standard was more than 0.7 for all constructs. The Cronbach Alpha value for each variable can be seen in the following table.

Table 7. Cronbach Alpha Score

	Cronbach's Alpha
Principal Leadership _X1	0.894
Learning quality_Y1	0.881

(Source: Primary Data Processing Results, 2022)

Based on the result on table above, it got score which greater than 0,7. So, it can be concluded that each construct in this study was feasible to use or has fulfilled the requirements.

Inner Model Testing

The inner model is a structural model for predicting the causality relationship between latent variables. In the inner model, it also can be seen the collinearity of data or a strong relationship between variables. Ghozali (2020) further said that collinearity is used as a prerequisite test in

Structural Equation Modeling (SEM). The structural model of the research based on the results of the bootstrapping test that can be seen in the following scheme.

R Square (R^2) Score

Ghozali (2020) suggests that the coefficient of determination test ($\boldsymbol{R^2}$) is carried out to determine and predict of how big or important the contribution of the influence exerted by the independent variables jointly on the dependent variable. The greater value indicates to the better level of determination. In this study, the coefficient of determination used the Adjusted value which can be seen in the following table.

Table 8. R Square Score

	R Square	R Square Adjusted
Learning Quality_Y1	0,673	0,669

(Source: Primary Data Processing Results, 2022)

Based on the results in table 8, the Adjusted $\boldsymbol{R^2}$ value of the learning quality variable (Y1) was about 0.673. This value indicates that the principal's leadership implementation variable influences and contributes to the learning quality variable which about 67.3%.

Statistic Hypothesis Testing

Hypothesis testing is calculated to determine whether the independent variable has a significant effect on the dependent variable through the t test. Usually, for hypothesis testing, the probability value, the p-value with an alpha of 5% is less than 0.05. The t-table value for alpha 5% with 97 respondents was about 1.96. The results of the bootstrapping test in the picture above show the t value of each independent variable on the dependent variable. The path coefficient value can be seen in the following table.

Table 9. Significance Test of Path Coefficient table

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Principle Leadership > Learning quality	0.153	0.150	0.077	1.984	0.048

(Source: Primary Data Processing Results, 2022)

Based on the recapitulation of data processing results can be described as follows:

Hypothesis

The influence of the principal's leadership (X1) on the quality of learning (Y1). From the results of the hypothesis test, it was obtained that the t-statistic value was about 1,984. This value is greater than the t-table value of 1.96. The P value of 0.048 was smaller than the alpha value of 0.05.

4. Conclusion

Based on the results of the hypothesis test, it was obtained the t-statistic value was about 1,984. This value is greater than the t-table value which about 1.96. The P value of 0.048 is smaller than the alpha value of 0.05. Thus, it can be concluded that the principal's leadership variable (X1) has a significant influence on the quality of learning (Y1) or the hypothesis was accepted. Based on the results of this analysis, internal education policies in particular from eight vocational schools in Kupang during the Covid-19 pandemic need to pay attention to the importance of the principals' leadership role in determining the student learning quality.

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