

CORRELATION ANALYSIS OF THE NATIONAL EDUCATION STANDARDS IMPLEMENTATION TO VOCATIONAL SCHOOL QUALITY ASSURANCE – CASE STUDY IN INDONESIA

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Abstract

Aim: This research aims to investigate the correlation between national education standards in Indonesia with education quality assurance in a vocational high school. The study examined the standards items including learning content and process, learning assessment, and facility and infrastructure. **Methods and Materials:** The study was conducted at Seyegan 1 State Vocational High School using a quantitative research method with a correlational type. The data are collected through a questionnaire with a five-point Likert scale and interviews. This research used Karl Pearson's simple correlation, Spearman's Rank, and multiple correlations for data analysis. **Results:** The results showed a significant correlation between Indonesia's education standards and education quality assurance. The correlation coefficient in the learning content and proses standard item was 0.697 for stakeholders, 0.657 for educators, and 0.705 for student data. The correlation coefficient in the assessment standard item was 0.791 for stakeholders, 0.341 for educators, and 0.680 for student data. Furthermore, the correlation coefficient for facilities and infrastructure standard item was 0.674 for stakeholders, 0.675 for educators, and 0.743 for student data. **Conclusion:** Additionally, when considering content and learning process standards, learning assessment standards, and facilities and infrastructure standards simultaneously, the contribution of these factors is 54.4% for teacher data and 70.4% for student data. This research confirms that education quality at Seyegan 1 Vocational High School is guaranteed.

Keywords: Education Standards, Evaluation, Learning, Quality of Education, Vocational School.

INTRODUCTION

Education has an important role in improving the quality of human resources [1-3]. The national education system in Indonesia aims to develop the potential of students to become faithful people, devout, have noble character, healthy, knowledgeable, capable, creative, independent, and democratic citizens [4-6]. To realize these national education goals in Indonesia, the government has established National Education Standards which are described in 8 standards. The government has established National Education Standards which consist of standards for content, process, competency of graduates, teaching and education staff, infrastructure, facility, management, financing, and educational assessment [7].

These Indonesia National Education Standards are a reference for educational units in ensuring and improving the quality of education in Indonesia [8-9]. Specifically for Vocational High Schools (SMK) which aim to prepare graduates ready for work according to their field of expertise [10]. Therefore, the implementation of National Education Standards in Vocational Schools is very important to support the

achievement of quality Vocational School education [11]. HDI data results in 2015 show that Indonesia was in 35th place with a ranking of 70.1 out of 41 countries throughout the world [12]. This was indicated by the large number of vocational school graduates who could not be absorbed evenly by the world of work [13-15]. The causes of the low quality of education in vocational schools include poor school management [16], ineffective curriculum and learning processes [17], inadequate quality of educators and education personnel [17], inadequate school facilities [18], and learning support tools that are not yet good [19-20].

Further analysis was conducted to study the correlation between the implementation of National Education Standards and quality assurance efforts using case studies at Seyegan 1 State Vocational High School (SMKN 1 Seyegan). The aim is to improve the quality of education. The research focuses on the correlation between implementing National Education Standards and quality assurance of vocational school education, especially at Seyegan 1 State Vocational High School. The study focuses on three standards: content and learning process standards, assessment standards, and infrastructure standards. A quantitative approach was used to analyze the three standards mentioned. The data was collected through observation, interviews, and document studies related to implementing these standards. Statistical analysis was conducted to determine the correlation with the educational quality achievements as measured through school accreditation scores, student competency test results, and the graduates' absorption in the world of work. The results of this research will provide a clear picture of the correlation between the implementation of National Education Standards and quality assurance efforts, especially at Seyegan 1 State Vocational High School. The study is expected to offer valuable insights for schools in preparing policies and programs to improve the quality of education in the future, particularly regarding the implementation of National Education Standards.

LITERATURE REVIEW

Education quality assurance is an effort to manage education that has been determined by standards in the education system based on assessing the quality of education, providing assistance in meeting standards, including general standards, planning, implementation, processing, and reporting of student learning outcomes [21-22]. It is hoped that the correlation between the implementation of national education standards and vocational school quality assurance will be useful and become a reference for the Directorate of Vocational School Development in general and specifically for Vocational Schools to improve the management of educational standards for the sake of establishing better quality and quality of education. This research discusses the implementation of National Education Standards (SNP) to enhance the quality of education at MTsN 2 Central Tapanuli. The research indicated that the school has successfully implemented all 8 SNPs, which include content standards, processes, graduate competencies, educators and education staff, infrastructure, management, financing, and assessment. The implementation of SNP was visible through the management functions of planning, implementation, and supervision by the madrasa head. Despite facing challenges such as a lack of facilities, the school headmaster has consistently worked to improve the quality of education. Overall, MTsN 2 Central Tapanuli has effectively implemented SNP to improve the quality of education [23].

The second research shows that there is a significant influence between National Education Standards on employment opportunities for vocational school graduates in Surabaya. Indicator analysis found that the SNP 8 indicator, namely Educational Assessment Standards, had the highest component weight, which shows the importance of educational assessment in producing graduates who are absorbed in the world of work [24].

The third research explains that Government Regulation (PP) of the Republic of Indonesia Number 19 of 2005 concerning National Education Standards (SNP) requires every educational unit at primary and secondary education levels to prepare a curriculum by referring to Content Standards, Graduate Competency Standards, Education Management Standards, Standards Assessment Process and Standards, and is guided by the guidelines prepared by the National Education Standards Agency. Education management standards are standards for managing education in an educational institution. The essence of educational management is an integral component and cannot be separated from the overall educational process [25].

In the fourth research, managers and supervisors have assessed the degree to which quality assurance standards are being implemented in vocational education and training centers. The findings of the evaluation suggest that the current implementation of quality assurance criteria is insufficient, and there is a pressing need for enhancement in all domains, namely input, process, output, and feedback. It is imperative to enhance the implementation of quality assurance criteria in each domain to ensure that vocational education centers can produce exemplary graduates who are equipped to meet the dynamic demands of the labor market [26]. Previous research studies on the influence of SNP on employment opportunities for vocational school graduates have some shortcomings. The research has not comprehensively analyzed the significant impact of SNP on employment opportunities, evaluated the implementation of SNP in vocational schools as a whole, and assessed the quality assurance domain in vocational schools in depth.

METHODS AND METHODOLOGY

The research uses a quantitative approach with parametric statistics for educator and student respondents and non-parametric for stakeholder respondents. The type of research used was correlational by Karl Pearson and Rank Spearman, to find out the correlation between one variable and another variable and the magnitude of the correlation [27]. The correlation between the variables will later be expressed through the magnitude of the correlation coefficient and its significance with the help of the SPSS application. Simple correlation and multiple correlation research, apart from having the aim of finding out whether there is a correlation between variables, will also show how big the correlation is, including the significance of the correlation between these variables [28]. In this research, an analysis was conducted regarding the correlation between National Education Standards, especially on learning content and process standards, learning assessment standards, as well as facility and infrastructure standards and education quality assurance at Seyegan 1 State Vocational School.

Research Population and Sample

Population is a term used by researchers to refer to a group of individuals, objects, or other things that share specific characteristics. The size of the population is not the

only consideration, as researchers also examine the overall characteristics of the group. When the population is too large to study in its entirety, researchers take a sample that represents the population. The sample must be carefully selected to provide an accurate representation of the population being studied [29].

The research targeted stakeholders, educators, and students at Seyegan 1 State Vocational High School. The research sample was selected using the probability sampling system through simple random sampling. This means that members of the population were chosen randomly without considering the strata. The sample consisted of seven stakeholders including school principals and six heads of expertise competencies. Additionally, 40 subject teachers were chosen randomly from a total of 95 productive subject teachers in each skill competency and adaptive normative subject teachers at Seyegan 1 State Vocational High School. The sample size for students was also 40 and was selected randomly. If multivariate analysis is conducted, the sample members should be at least ten times the number of variables studied. [30]. Considering that there are four variables, 40 samples are needed as research respondents.

Operational Definition of Variables

Research variables are values that are possessed by individuals, objects, or activities that have been determined by the researcher. In this research, four variables have been considered, including three independent variables and one dependent variable. The independent variable in this research is the National Education Standards, which consists of content and learning process standards (X_1), learning assessment standards (X_2), and facilities and infrastructure standards (X_3). On the other hand, the dependent variable in this research is quality assurance (Y). The following is a diagram that showcases the correlation between the three independent variables and the one dependent variable.

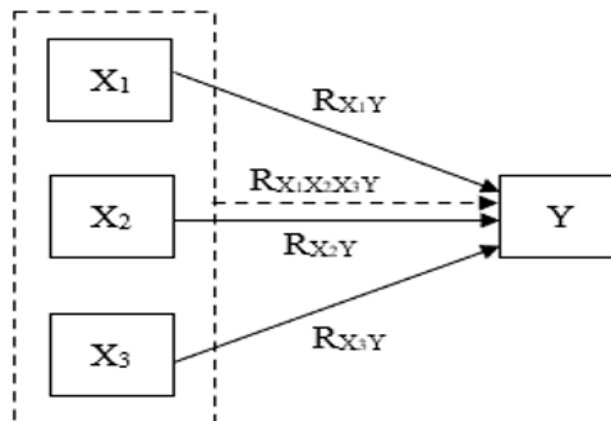


Figure 1: Scheme of the Correlation between Variable X and Variable Y

Information:

- X_1 : Content and Learning Process Standards
- X_2 : Learning Assessment Standards
- X_3 : Facilities and Infrastructure Standards
- Y : Education Quality Assurance

Through Figure 1, operational variables can be defined with the following explanation:

1. $RX_1.Y$ explains that the content and learning process standard instruments seek a partial correlation with educational quality assurance.
2. $RX_2.Y$ explains that the standard learning assessment instrument seeks a partial correlation with educational quality assurance.
3. $RX_3.Y$ explains that the standard instrument for facilities and infrastructure seeks a partial correlation with education quality assurance.
4. $RX_1.RX_2.RX_3.Y$ explains that the instruments for learning content and process standards, learning assessment standards, and facilities and infrastructure standards seek a simultaneous correlation with education quality assurance.

In this research, two main types of variables need to be considered, namely independent variables and dependent variables. Independent variables are variables that can be manipulated or changed by researchers to see their effect on other variables [31]. Variables In this study the independent variables are Learning Content and Process Standards, Learning Assessment Standards, and Facilities and Infrastructure Standards.

Meanwhile, the dependent variable is a variable that is observed and measured to determine the influence or changes resulting from the manipulation of the independent variable [32]. The independent variable is the factor that is manipulated, while the dependent variable is the response or consequence that is observed. The correlation between these two variables is very important in research because it allows researchers to investigate how changes in the independent variable affect the dependent variable [33]. Understanding these correlations can provide valuable insight into the phenomenon under study and aid in theory development or practical application.

RESULTS AND DISCUSSION

Research Population and Sample

The purpose of this research is to examine the correlation between National Education Standards and the quality of education at Seyegan 1 State Vocational High School. This will be done by investigating the perspectives of the school's stakeholders, educators, and students. The research focuses on three independent variables, which are the learning content and process standards, learning assessment standards, facilities, and infrastructure standards. The dependent variable is the quality assurance of education. The data collected will be analyzed using SPSS, and descriptive statistics will be used to determine the total sample, minimum, maximum, average, and standard deviation values for each group. Additionally, the percentage score for each variable will be calculated by taking into account the number of scores obtained, the maximum number of scores, and the percentage of data scores.

Operational Definition of Variables

The first hypothesis examines the significant correlation between content and learning process standards and ensuring the quality of education at Seyegan 1 State Vocational High School. The null hypothesis (H_0) states there is no significant correlation, while the alternative hypothesis (H_a) states there is a significant correlation. Decisions are taken based on the correlation coefficient (r_{xy}), where a

positive value indicates a unidirectional correlation and a negative value indicates a unidirectional correlation. Significance was tested by comparing r_{count} and r_{table} at the 5% level. If $r_{\text{count}} > r_{\text{table}}$, the correlation is considered significant. Spearman Rank correlation analysis is used for stakeholders and Pearson Product Moment for educators and students.

The results of correlation testing between standard content and learning process variables (X_1) and education quality assurance (Y) on stakeholder data are: The correlation coefficient (r) is 0.697, indicating a strong correlation. The correlation coefficient is positive, meaning a unidirectional correlation, where high content and learning process standard values correlate with high educational quality assurance values. The significance value is $0.041 < 0.05$, so H_0 is rejected and H_a is accepted. There is a positive and significant correlation between content learning process standards and educational quality assurance.

Table 1: Correlation Test Results X1 with Y Stakeholder Data

Correlation Test		X ₁	X ₂	X ₃	Y
X ₁	<i>Spearman's Rank Order Correlation</i>	1	0.176	0.094	0.697
	<i>Sig. (2-tailed)</i>		0.353	0.421	0.041
	<i>N</i>	7	7	7	7

The second hypothesis tests the correlation between learning assessment standards in the National Education Standards and education quality assurance. The null hypothesis (H_0) states there is no significant correlation, while the alternative hypothesis (H_a) states there is a significant correlation. To test this hypothesis, correlation analysis was conducted using the Spearman Rank model for stakeholder respondents and Karl Pearson Product Moment for educator and student respondents. The correlation test results show a correlation coefficient of 0.791 between the learning assessment standard variable (X_2) and the education quality assurance variable (Y) in stakeholder data. This value indicates a very strong and unidirectional positive correlation, meaning that the higher the standard of learning assessment, the higher the quality of education will be guaranteed. With a significance value of $0.017 < 0.05$, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. Based on this result, there was a positive and significant correlation between the two variables.

Table 2: Correlation Test Results of X2 with Y Stakeholder Data

Correlation Test		X ₁	X ₂	X ₃	Y
X ₂	<i>Spearman's Rank Order Correlation</i>	0.176	1	0.663	0.791
	<i>Sig. (2-tailed)</i>	0.353	0	0.052	0.017
	<i>N</i>	7	7	7	7

The correlation test results show a correlation coefficient of 0.791 between the learning assessment standard variable (X_2) and the education quality assurance variable (Y) in stakeholder data. This value indicates a very strong and unidirectional positive correlation, meaning that the higher the standard of learning assessment, the higher the quality of education will be guaranteed. With a significance value of $0.017 < 0.05$, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted, namely that there is a positive and significant correlation between the two variables. Correlation testing between the standard variables of facilities and infrastructure (X_3) with the education quality assurance variable (Y) on stakeholder data produces a correlation coefficient (r) of 0.674, indicating a strong and unidirectional positive

correlation. This means that the higher the standard of facilities and infrastructure, the higher the quality of education will be guaranteed. With a significance value of $0.049 < 0.05$, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted, namely that there is a positive and significant correlation between the two variables.

Table 3: Correlation Test Results of X3 with Y Stakeholder Data

Correlation Test		X ₁	X ₂	X ₃	Y
X ₃	<i>Spearman's Rank Order Correlation</i>	0.094	0.663	1	0.674
	<i>Sig. (2-tailed)</i>	0.421	0.052		0.049
	<i>N</i>	7	7	7	7

The fourth hypothesis tests the correlation between content and learning process standards, learning assessment, and facilities and infrastructure in the National Education Standards simultaneously with education quality assurance. The null hypothesis (H_0) states there is no significant correlation, while the alternative hypothesis (H_a) states there is a significant correlation. To test this hypothesis, the R-Square test and F test were conducted using SPSS on educator data. The results of testing educator data show $r_{count} (0.738) > r_{table} (0.312)$ and significance $0.000 < 0.05$ R-Square coefficient of determination = 0.544, meaning that 54.4% of education quality assurance variables are explained by content and learning process variables, learning assessment, as well as facilities and infrastructure. The remaining 45.6% is explained by other variables. $F_{count} (14.332) > F_{table} (2.85)$ Thus, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted, namely that there is a significant correlation between content standards and the learning process, learning assessment, and facilities and infrastructure simultaneously with guarantee quality of education in educator data. Then the results of the R-Square test and F test for student data will be discussed next.

Table 4: R-Square Test Results for Educator Data

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.738 ^a	0.544	0.506	10.890

Table 5: F Test Results for Educator Data

Model	Sum of Squares	df	Mean Square	F	Sig.
<i>Regression</i>	5098.733	3	1699.578	14.332	0.000 ^b
<i>Residual</i>	4269.167	36	118.588		
<i>Total</i>	9367.900	39			

DISCUSSION OF HYPOTHESIS FINDINGS

Based on the results of the analysis of hypothesis testing, it was found that there was a positive and significant correlation between content and learning process standards, and educational quality assurance. T

his is indicated by a r_{count} value that is greater than r_{table} and a significance value of less than 0.05 in the data from stakeholders, educators, and students. A positive correlation coefficient indicates a unidirectional correlation, where increasing content and learning process standards correlate with increasing educational quality assurance. This finding is supported by Minister of Education and Culture Regulation Number 65 of 2013 which establishes content and process standards as guidelines for implementing learning to improve the quality of graduates and education.

However, this is different from the 2017 Ministry of Education and Culture research which found a negative influence of learning content standards on the quality of school education. Furthermore, a positive and significant correlation was found between learning assessment standards and education quality assurance based on data from stakeholders, educators, and students.

A positive correlation coefficient indicates a unidirectional correlation, where an increase in learning assessment standards is correlated with an increase in educational quality assurance. This finding is supported by the Minister of Education and Culture Regulation of Republic of Indonesia Number 23 of 2016 concerning the assessment of learning outcomes to improve the quality of education. However, this is different from the research of Sabar Budi Raharjo et al (2018) which found a positive but not significant effect [34].

In addition, a positive and significant correlation was found between facilities and infrastructure standards and education quality assurance based on data from stakeholders, educators, and students. A positive correlation coefficient indicates a unidirectional correlation, where an increase in the standard of facilities and infrastructure is correlated with an increase in education quality assurance.

This finding is in line with the theory of Barnawi & Arifin (2017) regarding the importance of standard facilities and infrastructure to support the learning process and quality of graduates [35], as well as research by Sabar Budi Raharjo et al (2018) which found a positive and significant influence. The results of the fourth hypothesis test on data from educators and students show that there is a significant correlation between content and learning process standards, learning assessment, and facilities and infrastructure simultaneously guaranteeing the quality of education.

The value of r_{count} exceeds r_{table} and F_{count} exceeds F_{table} , with a coefficient of determination (R-Square) of 54.4% and 70.4% respectively. This finding is supported by Herliana's theory (2018) regarding the importance of fulfilling National Education Standards to improve the quality of education and is in line with research by the Ministry of Education and Culture (2017) which found a strong correlation between standards in predicting school quality [36].

CONCLUSION

Based on the results of the research and discussion, it can be concluded that there is a partially significant correlation between content and learning process standards, learning assessment standards, as well as facilities and infrastructure standards and guaranteeing the quality of education at Seyegan 1 State Vocational High School. This is indicated by the correlation coefficient value which is greater than the r_{table} value with a significance of less than 0.05 in the data from stakeholders, educators, and students. For content and learning process standards, the correlation coefficient values are 0.697 (stakeholders), 0.657 (educators), and 0.705 (students).

Meanwhile, for learning assessment standards, the correlation coefficient values are 0.791 (stakeholders), 0.341 (educators), and 0.680 (students). As for facilities and infrastructure standards, the correlation coefficient values are 0.674 (stakeholders), 0.675 (educators), and 0.743 (students). A positive correlation coefficient indicates that the correlation between these variables is in the same direction and significant.

Apart from that, a significant correlation was also found simultaneously between content and learning process standards, learning assessment standards, as well as facilities and infrastructure standards and guaranteeing the quality of education at Seyegan 1 State Vocational High School. The contribution of the three independent variables to the dependent variable is 54.4% for educator data and 70.4% for student data.

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