

Strategies for Promoting Innovation in a Driving Training Programme that Implements the Independent Curriculum

Yuyun Elizabeth Patras¹, Resyi Abdul Gani²

^{1,2} Universitas Pakuan, Bogor, Indonesia

yuyunpatras64@gmail.com, resyi@unpak.ac.id

corresponding author: yuyunpatras64@gmail.com

ABSTRACT

This research aims to find new ways and strategies to increase innovation in the teacher school program by examining other variables positively related to teacher innovation. These variables implement an independent curriculum. New ways and strategies for enhancing teacher innovation are subsequently recommended to the following parties. The parties are the Director of Education, School Supervisors, School Principals, and Teachers. 183 respondents were involved as a multi-stage random sample using the Slovin formula. It also used quantitative research with correlation analysis modelling and SITOREM analysis. The research results indicate that (1) there was a positive direct relationship between the innovation strategy and the driving school programme with a value of $ry1 = 0.991$, (2) there was a positive direct relationship between the driving school programme and the implementation of the independent curriculum with a value of $ry2 = 0.982$, (3) there was a positive direct relationship between the implementation of the independent curriculum and the teacher's innovative strategy with a value of $ry3 = 0.986$, (4) there was a positive direct relationship between the implementation of the independent curriculum and the teacher's innovative strategy with a value of $ry3 = 0.986$, (4) there was a positive direct relationship between the driving school curriculum and implementing the independent curriculum with teacher innovation strategy with a value of $ry12 = 0.992$, (5) there was a positive direct relationship between the driving school program and implementing the independent curriculum with a value of $ry13 = 0.992$, (6) there is a positive direct relationship between the driving school programme and the implementation of the independent curriculum with an innovation strategy with a value of $ry23 = 0.989$, and (7) there is a positive direct relationship between the driving school programme and the implementation of the independent curriculum with an innovation strategy with a value of $ry123 = 0.992$. The research explores strategies to increase teacher innovation through the development of achievement motivation, teamwork, and organisational climate. The SITOREM analysis results reveal that the indicators are still weak and need to be improved, namely 1) management innovation, 2) service innovation, and 3) process innovation.

Keywords: *encouraging teachers, independent curriculum, innovation in teaching, teamwork*

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INTRODUCTION

One of them is the impact on the education system in Indonesia. Part of this independent learning policy is the existence of the driving school programme and the driving teacher programme. The driving school program is an effort to realize the vision of Indonesian education in realizing an advanced Indonesia that is sovereign, independent, and individual through the creation of Pancasila students. The driving teacher will be given the role of (Setiawan, A. M., & Sugiyanto, 2020). (a) mobilizing a learning community for fellow teachers in school and region, (b) becoming a practical teacher for other teachers involved in developing learning in school, and (c) encouraging improvement of student leadership in school (Hidayat & Patras, 2024). (Hidayat & Patras, 2024) argues that "the changing industrial environment and competition among schools require school management to improve the quality of teaching. To meet the needs of students, schools have to invest in hardware and hire teachers who are competent and innovative". (Perubahan lingkungan industri dan persaingan antar sekolah menuntut manajemen sekolah untuk meningkatkan kualitas pengajaran. Untuk memenuhi kebutuhan siswa, sekolah perlu berinvestasi konsentrasi penelitian dalam perangkat keras dan merekrut guru yang kompeten dan inovatif).

Furthermore, the findings of the preliminary survey conducted in September 2023 in the State Middle School in Bogor Regency with 30 participants showed that only 45% of the teachers had innovated. From

this data, it can be seen that there is a difference (GAP) between what is expected and the reality on the ground regarding teacher innovation. The following research that has been carried out about teacher innovation as a reinforcement material in this research is also a reference that the variable of teacher innovation is still relevant and interesting to continue researching. The independent learning programs are implemented to accelerate the achievement of national goals in the world of education, namely to improve the quality of human resources (HR) in Indonesia, because it has advantages and competitiveness with other countries. The quality of human resources that is much superior and competitive is realized through students who have noble character and also have a high level of reasoning, especially in the field of numeracy and literacy.

Innovativeness is an attitude or activity that shows the level of innovation that has been carried out. (Detre et.al, 2011). In this case, innovating shows changing behaviour in innovating. According to (Schermerhorn et al., 2010), at least it is stated that there are four factors of innovation, including: (a) the discovery of ideas that appear implicitly as the fruit of original thought that is then processed as information, (b) the main empiricism, namely finding the value and application of potential ideas in their concrete life, (c) determining the feasibility in explaining the anticipation of expenditure and income for what has been done based on the new idea, (d) final application to make something a product and market as a new service and goods and provide new applications and approaches in its implementation. Furthermore, (Rusdiana, 2014) stated that innovation is an effort to apply innovations that are the result of thoughts, ideas, with the use of different levels of development or improvement to be provided as a result of new goods or services to extreme consumers, new income, or new processes. This new development and idea later became an innovation and is an innovative effort by a teacher.

The curriculum is independent of his work as a teacher, such as in terms of teaching, which is an effort in the form of service in the world of education. (Dawson, P. & Andriopoulos, C., 2011) argues that innovation is a process of converting or creating new ideas into new, useful products, processes, and services. Innovation is also the exploitation of new ideas and ideas. From the above explanation, it can be concluded that there are at least five factors related to innovation, including (a) Product innovation (producing *rneangan*), which is the improvement of a product to new or correcting errors in the old product to something new, (b) Service or service innovation is the improvement of services or services to new or improving old services that are no longer under the demands of the times, creating new products, (c) process innovation (carrying out development) or earning in is correcting the wrong process in the production of products and services, (d) management or administrative innovation has a function in reducing costs or expenses, improving and improving quality, and improving productivity or labor power, (e) innovation in market position is used in the production of new markets. (Detre et al., 2011) The theory that innovation has a direct relationship with innovation, it is expected that organizations use innovation as a strategy or strive to increase innovation as a unit over part of their culture, and strive to make it a competency that they must have. Identification of new products or services, changes in methods or technologies that are more positive and beneficial than the previous era of doing things (Bateman et al., 2019; Çakır, S.K., & Akbulut, C.K., 2022).

Teachers as leaders are teachers who lead learning that promotes student growth and development holistically, actively, and proactively by training other educators to implement student-centered learning. To do this, innovative teachers are needed. For the independent learning programme to be successful, teachers must be able to effectively provide meaningful, enjoyable and highly engaging learning for children. One of the ways that the government can achieve this is through the provision of teaching freedom (Balliet, R.N., Riggs, E.M., & Maltese, A.V., 2015).

The use of this platform will allow teachers to receive a greater number of references from other teachers and to implement real actions from the various teaching modules available, including conducting assessments. (Hariyadi, H., Misnawati, M., & Yusrizal, Y. (2023). Realising the success of the independent learning programme through effective and meaningful learning includes: (a) Meaningful learning: Meaningful learning occurs when students can relate the material they have learned to their daily lives. In the

context of independent learning, teachers are required to use a contextual approach that integrates local and global values. For example, relating science content to natural phenomena around the students will deepen their understanding of these concepts. Teachers can use learning techniques such as project-based learning, where students work on real projects that challenge them to think critically and creatively. This helps students not only to memorise information, but also to understand how to apply it in real life; b) Making learning fun: learning is fun: creating a pleasant classroom atmosphere is key to keeping students interested and motivated to learn. Teachers can use various interactive learning methods, such as educational games, simulations, and group discussions; by combining technology, such as the use of digital learning applications and social media for discussions, students will be more involved and enthusiastic in the learning process. (c) A pleasant learning environment can also relieve tension and increase students' self-confidence. Playful exercises can increase teamwork and strengthen social relationships among students, thus creating a positive learning climate. (d) High absorption in learning refers to the ability of learners to understand, remember, and apply the knowledge they have acquired. One way to increase students' absorption is to provide constructive feedback. Teachers should regularly assess students' understanding through quizzes, assignments, or discussions and provide feedback to students to help them improve.

An initial survey to analyze teachers' innovation was conducted on 30 teachers in September 2023 in the State Junior High School, Bogor Regency. It was found that 55% of teachers did not innovate products (make designs). 57% of teachers did not innovate the process (carry out development), especially in terms of using learning models and variations of tasks to students, 51% of teachers did not innovate services, namely by providing variations of learning models, seating arrangements, and paying attention to students based on their abilities, and 49% of teachers did not innovate management. The results show that the gap between what is expected and the reality in the field regarding teacher innovation is low.

Innovation is a process of finding new ideas that are then put into practice (a). The innovation of teachers is aimed at producing quality human resources in various aspects of life. (b). Innovation is the process of creating and doing new things that are introduced into the marketplace as products, processes, or services., (Schermerhorn JR, Hunt JG, Osborn RN, Bien MU., 2010); (Alalwan, N. et.al, 2022); (Anvuur, A. M., & Kumaraswamy, M. M., 2016). The theory that innovation has a direct relationship with innovation it is expected that organizations use innovation as a strategy or aim to increase innovation as a unit (Adegboyega, L. O., 2018; Armstrong, S., 2012).

If innovation in the world of education has focused on school-based innovation, there are at least some things that cause the emergence of limitations in the knowledge, desire, creativity and motivation of teachers, so that it affects the justification of the weak innovation of a teacher, which comes from the internal aspects of the teacher himself, even though there are many factors that affect it. Therefore, it is necessary to study and research more deeply the dominant factors that affect teachers' innovation. (Awolusi, et. al., 2015); (Hellriegel, D., & J. W. Slocum., 2011); (Rochon, A., 2014). Innovation at work is influenced by three factors, namely the individual, the group, and the organisation.

Teamwork in terms of the outcomes of activities between individuals in terms of cognition and so on to achieve common goals that are certainly related to innovation (Hanaysha, J., 2016), (Aveling, E. L., et. al., 2018); (Chaudhary, R., Rangnekar, S., & Barua, M. K., 2014). Some components of teamwork are attitudinal, such as team orientation (i.e., preference for working with others), while others are action and process oriented, such as leadership and joint performance monitoring (Chen, S., Ouyang, F., & Jiao, P., 2022). Teamwork is defined as a group in which individuals work together and produce higher performance than someone working individually. Provide positive synergies through jointly controlled performance (Chen, S., Ouyang, F., & Jiao, P., 2022). (Dhurup, M., Surujlal, J., & Kabongo, D. M., 2016), (Griffin, R. W., & Moorhead, G., 2014).

Teachers as drivers are teachers who lead learning that promotes student growth and development holistically, actively and proactively in the development of other educators to implement student-centred learning, (Gunasinghe, A., Hamid, J. A., Khatibi, A., & Azam, S.M.F., 2018); (Armstrong, S., 2012), as well

as a role model and agent of transformation of the educational ecosystem to realise the profile of Pancasila students; (f) The results of the preliminary survey show that only 45% of teachers have innovated products (produced designs) with the development of lesson plans and learning media. Furthermore, there are only 43% of teachers who have innovated the process (carried out development), especially in terms of using learning models and variations of tasks for students. Then there are only 49% of teachers who have innovated services, namely by providing a variety of learning models, seating arrangements, and paying attention to students based on their abilities. And there are 51% of teachers who have made management innovations. This survey indicates that some aspects are very consistent with the problems that exist in the variables that researchers will study in this area. (g) Low teacher creativity can hurt teacher performance, especially in developing themselves and generating ideas and ideas for self-realization.

The research is based on the background described, the research will explore strategies to increase teacher innovation through the design of the teacher mobilization program and the implementation of an independent curriculum. The research was conducted on ASN teachers at the State Junior High School. The teachers have the status of driving schools in Bogor Regency.

LITERATURE REVIEW

Innovation is defined as a personality trait that makes a person comfortable in an unfamiliar situation or willing to take a high risk for something new. However, innovativeness is less predictive of decisions to adopt particular innovations. Individuals with innovative personalities are those who are enthusiastic about embracing technological innovations, in this case the industrial revolution 4.0 (Gunasinghe et al., 2018); (Heydari, H., Madani, D., & Rostami, M., 2013). On the other hand, according to (Kinicki, 2013), innovation is defined as the activity of creating new ideas and transforming them into useful applications, especially new goods and services. With the following indicators: (a) innovation process: changes in the way a product or service is used; (b) the services are understood, produced or distributed; (c) product innovation: a change in the appearance or performance of a new product or service or creation; (d) additional innovation: the creation of a widely adaptable product, service or technology; and (e) radical innovation: the creation of a product, service or technology that replaces an existing product.

If innovation in the world of education is already focused on school-based, cultural, personal, and interactive innovation, this will become more important than purely technical and rational innovation (Omur & Argon, 2016). (Griffin & Moorhead, 2014). Submit "Innovation is the process of creating and doing new things that are introduced into the marketplace as products, processes, or services" (Innovation is the process of creating and doing new things that are introduced into the marketplace as products, processes, or services). The indicators are as follows: a. Radical innovation (sometimes called disruptive innovation) is a breakthrough that changes or creates an entire industry (Radical innovation (sometimes called disruptive innovation) is a breakthrough that changes an entire industry; b. System innovation creates a new functionality by assembling parts in a new way (System innovation creates a new functionality by assembling components in a new way; c. Incremental innovation continues the technical improvement and expands the applications of radical and system innovations (Incremental innovation continues the technical improvement and expands the applications of systems and radical innovations). It is shown in the school's product, process, and service strategy, which aims to change the existing conditions and show unique features in improving organisational performance within the school. If innovation in the world of education is already focused on school-based, cultural, personal, and interactive innovation, this will become more important than purely technical and rational innovation (Omur & Argon, 2016).

Innovation is defined according to (Schermerhorn et al., 2010) who state that innovation is a process of finding new ideas that are then put into practice. Innovation is also a means for the formation of ideas in creating something that can be applied in daily life, ideally, innovation is a follow-up that contributes to providing an improvement in services and productivity of the users (consumers and organizations).

New ways of learning or new learning strategies. Indicators include: (1) the acceptance of new ideas, (2) the generation of new ideas, (3) the application of new ideas in the learning process, (4) the maximization of new facilities and infrastructure in the implementation of learning, (5) the implementation of assessments when changes occur in the learning process (Usmayadi et al., 2020).

A study conducted (Lucell A. Larawan, 2011) in the International Journal of Business and Management Studies entitled "Employee Innovativeness and Achievement Motivation: A Public and Private Organization's Experience", concluded that there was a significant positive relationship between achievement motivation and innovation with a correlation coefficient of 0.24 ($p < 0.05$). Meanwhile, the results of the research of Vikas Thakare and Gyan Prakash on "Climate For Innovation In Public Funded R&D Laboratory" concluded that there is a significant relationship between organizational climate and innovation, which is shown by the correlation coefficient $r = 0.379$ (with $p < 0.01$).

Based on the above description, it can be summarized that innovation is a person's behavior in creating new ideas into new products, processes, services, and management, and then applying them to provide more value and benefits. The indicators that can be classified in innovation are product innovation process innovation (doing development), service innovation (providing services) and management innovation. Opinion mobilization teachers (Gogidze & Orjonikidze, 2015) are a group of people who act together as a group, where everyone's opinions and interests are the main points of team unity and effectiveness. Teacher innovation is the unity of direction among group members in achieving an outcome. This kind of thing is interpreted as an effort to create harmony in work. Innovative in means doing good activities for students and schools.

Teacher innovation strategy (Patras, 2017); (Michou et al., 2014) is an inter-individual action that has an individual understanding of cognition, group goals, tasks, roles, norms, information sharing, performance monitoring, responsibility, helping fellow members, and a commitment to achieving common goals. The indicators are knowledge and information, seriousness of action and social emotions.

METHOD

The research methods used are survey methods and correlational approaches. These are types of research that seek to establish whether there is a relationship between free variables and bound variables. This research is conducted using quantitative research methods, where there will be many elaborations in the form of numbers. This method is also a method of discovery because the hypothesis results of his research can develop various new sciences. The use of quantitative is also intended so that existing data and variables are tested through numbers and analysis using statistics, (Sugiyono, 2015). The constellation of research relationships between the free and bound variables, as illustrated in figure 1. below.

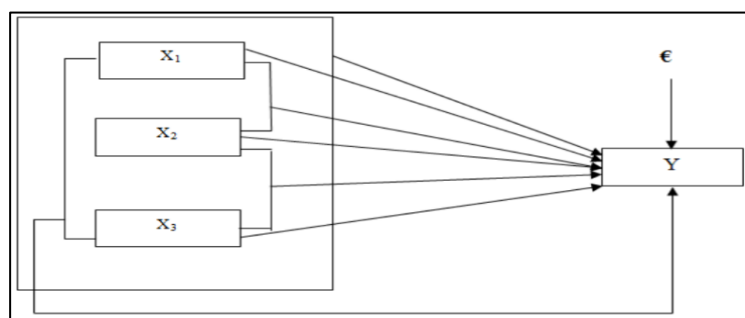


Figure 1. Constellation of Relationships between Independent Variables (X_1, X_2, X_3) With Bound Variables (Y)

Information:

X_1 : Independent Curriculum Variables

X_2 : Variable *Team Work*

- X3 : Variable Teacher Deployment
Y : Teacher Innovation.
€ : (epsilon) Other variables not examined

There are three independent variables (variable X) in this study, namely: Independent Curriculum, (X1) Team Work (X2) and Teacher Mobilization (X3), while the bound variable (Variable Y) is Teacher Creativity (Y). The types of instruments used are as follows:

1. Teacher Innovation's Variables use non-test research instruments, namely questionnaires with 5 (five) choice options (always, often, sometimes, ever, never).
2. The variables of the Independent Curriculum use non-test research instruments, namely questionnaires with 5 (five) choice options : Strongly agree (score 5), agree (score 4), hesitate (score 3), disagree (score 2), and strongly disagree (score 1).
3. The Team Work variable uses a non-test research instrument, namely a questionnaire with 5 (five) choice options (always, often, sometimes, ever, never).
4. The Teacher Mobilization variable uses a non-test research instrument, namely a questionnaire with 5 (five) choice options : Strongly agree (score 5), agree (score 4), hesitate (score 3), disagree (score 2), and strongly disagree (score 1).
5. The population in this study was carried out in government junior high schools that are included in the category of driver schools, a sum of 16 government junior high schools in the area of Bogor Regency, West Java, the research period was from October 2023 to March 2024.

Table 1. Number of State Junior High School Level Driving Schools in the Bogor Regency Region

No	District	School Name	Number of ASN Teachers
1	Cibinong	SMP N 2 CIBINONG	33
2	Cibinong	SMP N 3 CIBINONG	38
3	Pamijahan	SMP N 2 PAMIJAHAN	9
4	Kemang	SMP N 1 KEMANG	24
5	Parung	SMP N 1 PARUNG	19
6	Gunung Sindur	SMP N 3 GUNUNG SINDUR	19
7	Gunung Putri	SMP N 2 GUNUNG PUTRI	24
8	Cibungbulang	SMP N 1 CIBUNGBULANG	26
9	Cibungbulang	SMP N 3 CIBUNGBULANG	12
10	Cigudeg	SMP N 1 CIGUDEG	12
11	Tenjo	SMP N 1 TENJO	13
12	Leuwiliang	SMP N 1 LEUWILIANG	26
13	Leuwiliang	SMP N 4 LEUWILIANG	5
14	Ciomas	SMP N 1 CIOMAS	34
15	Citeureup	SMP N 1 CITEUREUP	27
16	Taman Sari	SMP N 2 TAMAN SARI	14
TOTAL			335

Sumber: <https://dapo.kemdikbud.go.id/>

The sample data used a sampling technique based on the Slovin formula. The research sampling is based on the calculation of the following Slovin formula:

$$n = \frac{N}{1 + Ne^2}$$

information:

n = overall sample size

n = population size

e^2 = percent of the inaccuracy allowance due to error

Using this formula, the following sample quantities are produced:

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{335}{1 + (335)(0.05)^2}$$

$$n = 182,312 = 183$$

Samples will be taken randomly whose proportion of schools the distribution of research samples in detail can be seen in table 2. next:

Table 2. Number of Research Samples by Population

No	School Name	Number of ASN Teachers	Sample Population	Number of Sampel
1	SMP N 2 CIBINONG	33	$33/335 \times 182 = 18,65$	18
2	SMP N 3 CIBINONG	38	$38/335 \times 182 = 19,47$	21
3	SMP N 2 PAMIJAHAN	9	$9/335 \times 182 = 4,88$	4
4	SMP N 1 KEMANG	24	$24/335 \times 182 = 13,03$	13
5	SMP N 1 PARUNG	19	$19/335 \times 182 = 10,32$	10
6	SMP N 3 GUNUNG SINDUR	19	$19/335 \times 182 = 10,32$	10
7	SMP N 2 GUNUNG PUTRI	24	$24/335 \times 182 = 13,03$	13
8	SMP N 1 CIBUNGBULANG	26	$26/335 \times 182 = 14,12$	14
9	SMP N 3 CIBUNGBULANG	12	$12/335 \times 182 = 6,51$	7
10	SMP N 1 CIGUDEG	12	$12/335 \times 182 = 6,51$	7
11	SMP N 1 TENJO	13	$13/335 \times 182 = 7,06$	7
12	SMP N 1 LEUWILIANG	26	$26/335 \times 182 = 14,12$	14
13	SMP N 4 LEUWILIANG	5	$5/335 \times 182 = 2,71$	3
14	SMP N 1 CIOMAS	34	$34/335 \times 182 = 18,47$	18
15	SMP N 1 CITEUREUP	27	$27/335 \times 182 = 14,66$	15
16	SMP N 2 Taman Sari	14	$14/335 \times 182 = 7,60$	8
	TOTAL			183

Source: <https://dapo.kemdikbud.go.id/>

Data collection technique, in the variable of the teacher of movement X1, the teacher used a questionnaire instrument consisting of 40 statements with 5 answer choices based on the attitude scale (SS, S, RR, TS, STS) with the indicators: (1) desire to excel in competition, (2) preference for new things, (3) desire to achieve goals, (4) desire to improve oneself to be better, (5) desire to succeed in work/career in the long run, (6) preference for challenges and competition, in the grid of the study instrument for the driving teacher variable. Calibration was carried out to 183 ASN teachers of State Junior High School, which is a

learning committee at Bogor Regency driving school, the sample group was selected, this was conducted to find out the validity and rehalibitas of the instrument.

The reliability test is carried out after the validity test, in which the valid statement items are tested using the Cronbach alpha formula. An instrument is said to be reliable if the value of the Cronbach Alpha coefficient is close to the number (one). The item of the instrument meets the criteria of correctness based on the value of the reliability coefficient obtained. After the test was carried out, the following results were obtained: (a) the instrument consisted of 40 (forty) questions. Results of the trial were 39 (thirty-nine) valid question items and 1 (one) invalid question item (drop), namely item number 7. Calculated by Pearson's product moment correlation formula at the confidence level ($\alpha = 0.05$) with $r_{table} = 0.361$; (b) calculation of reliability coefficient for 39 (thirty-nine) valid question items using Alpha Crounbach formula, calculation = $0.889 (> 0.70)$.

Furthermore, the same calculation is done for the variable of teamwork (x2), the variable of organisational climate (x3) and the variable of teacher innovation (Y). Meanwhile, the data analysis and hypothesis testing techniques to evaluate the respondents' answers are carried out as follows: (a) the variable of the teacher innovation uses the behavior rating scale, and the answer is always, often, sometimes, unweighted, and no weight is given to the answers in a row 5, 4, 3, 2, and 1. (b) the variable of the independent curriculum uses the Likert scale, and includes the answers strongly agree, agree, hesitate, disagree, and strongly disagree, and the weight of the answer is 5, 4, 3, 2, and 1, respectively; (c) the teamwork variable uses a behavioural rating scale and answers very always, often, sometimes, rarely, and seldom, the weight of the answer is 5, 4, 3, 2, and 1 in sequence; (d) the driving teacher variables use the Likert scale and contain the answers strongly agree, agree, hesitate, disagree, and strongly disagree, the weight of the answer is 5, 4, 3, 2, and 1 in sequence. After the data are collected, the data are analyzed as follows: (1) descriptive statistical analysis. (3) inferential statistical analysis, (4) correlation analysis, and (5) regression analysis¹. Simple correlation to calculate the degree of relationship between variable X1 and Y or variable X2 with Y and variable X3 with Y using the product moment correlation formula. According to (Sugiyono, 2015), Table 3 is used to provide an interpretation of the strong relationship between variables.

Table 3. Interpretation of Correlation Coefficients

R	Interpretation
0,00-0,199	There is no correlation between variabel X and Y (correlation ignored)
0,20-0,399	There is a low correlation between the X and Y variables
0,40-0,599	Between variables X and Y there is a moderate correlation
0,60-0,799	Between the X and Y variables there is a strong correlation
0,80-1,000	There is a very strong correlation between the X and Y variables

Sitorem analysis

Sitorem is an abbreviation for "Scientific Identification Theory to Conduct Operation Research in Education Management", which can generally be interpreted as a scientific method used to identify variables theory to conduct "operation research" in the field of education management (Soewarto Hardhienata, 2017). In the context of correlational research and path analysis, SITREM is used as a methodology to (a) Identify the strength of the relationship between free variables and bound variables, (b) analyze the value of the research results for each indicator of the research variable, and (c) analyze the weight of each indicator of each research variable based on the criteria of "cost, benefit, urgency, and importance".

Constellation of Research Models (SITOREM)

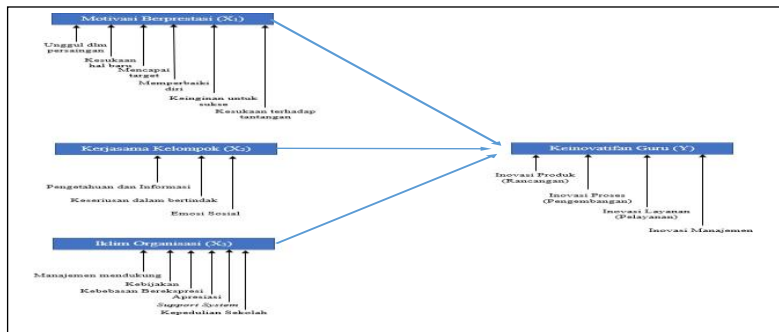


Figure 2. Constellation of Research Models (SITOREM)

RESULTS AND DISCUSSION

The normality test of the distribution of estimation errors is carried out using the *Liliefors* formula with the following description: The data of the results of the research presented in this section were obtained from the results of measurements of each research variable, namely teacher innovation, motivation to achieve, teamwork, and organizational climate, based on the respondents' answers to the instrument items of each variable. The data was collected from a sample of 183 ASN teachers in government junior high schools that have the status of driving schools in Bogor regency. After that, the discussion of the research results was presented starting from the prerequisite stage of analysis, namely normality test, homogeneity test, and linearity test of regression model. Model testing through correlation coefficient tests, hypothesis tests and SITOREM analyze to support the conclusions, suggestions and implications of the research.

Analytical Prerequisite Testing

Before correlation and regression tests are conducted, analysis prerequisite testing must first meet the requirements by testing normality and homogeneity. The analysis prerequisite testing is a test to determine the continuation of calculations to parametric calculations. The prerequisite test of this analysis uses 1) the normality test, 2) the Homogeneity test, 3) the linearity test.

Normality Test

Normality test The normality test of the distribution of the estimation errors is carried out using the *Liliefors* formula with the following description:

Table 4. Summary of the Normality Test of Standard Error Assessment

No	Assessment Standard Error	N	Lcount	$L_{table} \alpha = 0,05$	Prerequisites for the Normality test $Lcount < L_{table}$	Conclusion
1	Variabel Y top X_1	183	0,0609	0,0655	$0,0506 < 0,0786$ H_0 Accepted H_1 rejected	Normally Distributed
2	Variabel Y top X_2	183	0,0651	0,0655	$0,0489 < 0,0786$ H_0 accepted H_1 rejected	Normally Distributed
3	Variabel Y top X_3	183	0,0622	0,0655	$0,0476 < 0,0786$ H_0 accepted H_1 rejected	Normally Distributed

Homogeneity test

The test of homogeneity of variance aims to examine the homogeneity of the variance between each group of values of the bound variable (Y) that are classified to the same value or score of the independent variable (X). The test of homogeneity of variances was carried out using the Bartlett's test. The test indicators are

H_0 is accepted if $\chi^2_{count} < \chi^2_{table}$.

H_1 is accepted if one of the \neq (not equal to) has a significance level of 0.05.

The test process is that first a grouping of Y is made based on the similarity of X. Then values of dk, 1/sk, variance Si², log Si², (dk) log Si², (dk) Si² are calculated. From these values, χ^2 is calculated and the result is called χ^2 calculated, summarised in Table 5, as follows:

Table 5. Summary of Data Variance Homogeneity Test

No	Variance	χ^2_{count}	dk	χ^2_{table}	Prerequisites Homogeneity test $\chi^2_{count} < \chi^2_{table}$	Conclusion
1.	Y tops X ₁	45,39	125	215,56	45,39 < 215,56 H_0 accepted H_1 reject	Homogeneous
2.	Y top X ₂	73,19	134	215,56	47,19 < 215,56 H_0 accepted H_1 reject	Homogeneous
3.	Y tops X ₃	59,76	132	215,56	42,39 < 215,56 H_0 accepted H_1 reject	Homogeneous

Regression Model Test, Significance Test and Linearity Test

The regression model test with the significance test and linearity test are summarized in the conclusion of the linearity of the regression equation of the level of teacher innovation.

Table 6. Summary of the Linearity of Regression Equations

Variable relationships	Linearity of Regression Equations		P Value	Conclusion
	Fcount	Ftable		
\hat{Y} top X ₁	0,720	1,75	0,916	Non signifikan, Linier. Can be used to predict the level of teacher innovation influenced by the variable of the teacher
\hat{Y} top X ₂	0,909	1,75	0,647	Non signifikan, Linier. Can be used to predict the level of teacher innovation influenced by Variable Teamwork
\hat{Y} top X ₃	0,553	1,75	0,991	Non signifikan, Linier. Can be used to predict levels Teacher Creativity Influenced by Independent Curriculum Variables
Significance Requirement: (Fcal < Ftable or P value > α = 0.05 If the result shows Non Significant, then the conclusion of the equation is Linear				

Uji Hypothesis

This research proposes and generates seven hypotheses or suppositions to be tested empirically or through experience. The hypothesis is a temporary presumption of the relationship between independent curriculum (X1), teamwork (X2), and teacher teaching (X3) either individually or simultaneously with teacher innovation (Y).

The Relationship of Independent Curriculum with Teacher Innovation

There is a positive and very significant relationship between the independent curriculum and the teacher's innovation, so that strengthening the independent curriculum can increase the teacher's innovation, with a correlation coefficient of $r_{y1} = 0.991$ ($p > 0.01$) and a coefficient of determination of $r^2_{y1} = 0.982$.

Team Work With Teacher Creativity

There is a positive and very significant relationship between teamwork and teacher innovation, such that teamwork enhancement can increase the innovation of teachers with a correlation coefficient of $r_{y2} = 0.982$ ($p > 0.01$) and a determination coefficient of $r^2_{y2} = 0.965$. This is in line with the relevant previous research by Doris Fay et al. (2014), whose research title is Teamwork and Organisational.

The Relationship of Teachers and Teachers' Innovations

There is a positive and very significant relationship between the teacher and the teacher's innovation, so that the reinforcement of the teacher can increase the teacher's innovation with a correlation coefficient of $r_{y3} = 0.986$ ($p < 0.01$) and a determination coefficient of $r^2_{y3} = 0.972$.

The Relationship between Independent Curriculum and Team Work with Teacher Creativity

There is a positive and very significant relationship between independent curriculum and team work with teacher innovation, so strengthening independent curriculum and team work can increase the innovation of teachers with a correlation coefficient of $r_{y12} = 0.992$ ($p > 0.01$) and a correlation coefficient of $r^2_{y12} = 0.984$.

The Relationship between the Independent Curriculum and Teachers and Teacher Innovations

There is a positive and very significant relationship between the independent curriculum and teachers with the innovation of teachers, so that strengthening the independent curriculum Achievement motivation and organisational climate can increase teachers' innovation by $r_{y13} = 0.992$ ($P > 0.01$) and coefficient of determination $r^2_{y13} = 0.984$. There is a positive and highly significant relationship between team work and teacher innovation, so that teacher empowerment can increase teacher innovation with a correlation coefficient of $r_{y3} = 0.986$ ($P < 0.0001$). 0.986 ($p < 0.01$) and a coefficient of determination of $r^2_{y3} = 0.972$, and organisational climate with teacher innovation, so that strengthening teamwork and organisational climate can increase teacher innovation by $r_{y23} = 0.989$ ($p > 0.01$) and a coefficient of determination of $r^2_{y23} = 0.978$.

The Relationships Between The Independent Curriculum, Teamwork And Teacher Mobilization With

Teacher innovation there is a positive and very significant relationship between the independent curriculum, teamwork and mobilization teachers with teacher innovation, so that strengthening the independent curriculum, teamwork and mobilization teachers can increase teacher innovation by $r_{y123} = 0.992$ ($p > 0.01$) and the coefficient of determination $r^2_{y123} = 0.985$.

SITOREM Analysis

Starting from the scientific identification theory for operational research in education management (SITOREM) or the theory of scientific explanation in operational research in the field of education management, the reduction of suggestions or recommendations for research results in this dissertation will use the SITOREM method. The basis of consideration for the preparation of the problem handling includes three criteria, namely: (a) the strength of the relationship between the independent variables studied and the bound variables. (b) the order of the indicators that have been prioritized, and (c) the value of the indicators from the results of field research. After considering the three criteria, a sequence is made to determine the priority of actions to improve the state of the bound variables.

SITOREM Analysis Results

Based on the results of the expert assessments and the researchers' analysis, the weighting of the priority order of indicators that need to be immediately improved, maintained or developed can be arranged. The final results of the SITOREM analysis are summarised below:

Research constellation and statistical models

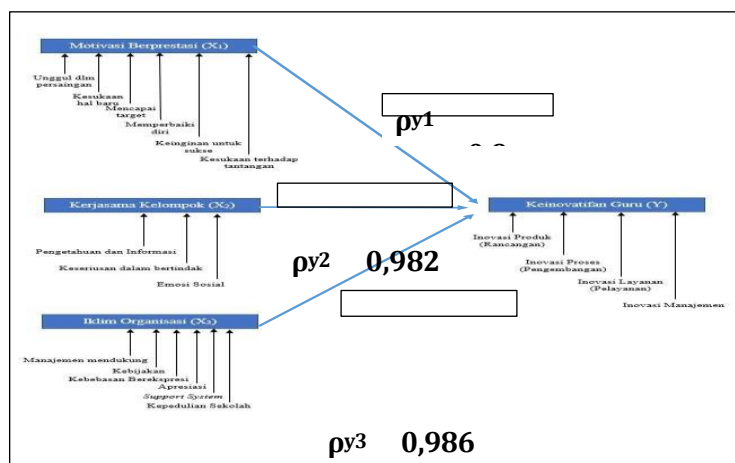


Figure 3. Constellation of Research and Statistical Models (Hardhienata, 2017)
Priority sequence result of the calculation result

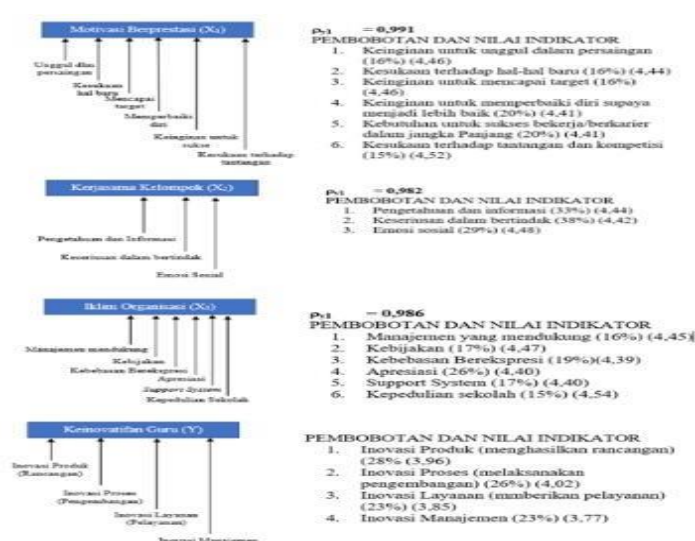


Figure 4. Priority order results from the results of factor calculations obtained from field research

The weights of the priority order of indicators that need to be immediately improved, maintained or developed, are compiled, the following are the findings of SITOREM's analysis of the overall variables:

Table 6. Results of SITOREM Analysis for the Determination of Overall Indicator Classification of Variables

CYTOREM ANALYSIS RESULTS	
Priority Order of Indicators to be Improved	Indicators maintained/developed
1 st Management Innovation	1st Freedom of Expression
2nd Service Innovation (providing services)	2nd Policy
3rd Process Innovation (implementing development)	3rd Social Emotions
	4th Policy
	5th Desire to excel in competition
	6th Desire to achieve targets
	7th Supportive management
	8th Likes new things
CYTOREM ANALYSIS RESULTS	
	9th Knowledge and information
	10th Seriousness in acting
	11th The desire to improve oneself to become better
	12th Need for long-term work/career success
	13th Appreciation
	14th Support System
	15th Freedom of Expression
	16th Product Innovation (producing designs)

Discussion

The Relationship between the Independent Curriculum and Teacher Innovation

Based on the results of the hypothesis, the functional relationship between achievement motivation and teacher innovation is shown by a simple linear regression equation $\hat{Y} = 5.881 + 0.964 X_1$, which means that in every unit increase in the achievement motivation value will be followed by an increase in the teacher's innovation value by 0.964 units with a constant value of 5.881. The results of this study show that this equation can be used to predict the level of teacher innovation based on the achievement motivation score.

Team Work With Teacher Creativity

The results of the study show that there is a positive relationship between the organizational climate and the innovation of teachers. Based on the results of the research, the hypothesis of the functional relationship between teamwork and teacher innovation is shown by a simple linear regression equation $\hat{Y} = -5.291 + 1.005 X_3$, which means that in every unit of increase in organizational climate value, it will be followed by an increase in the teacher's innovation value by 1.005 units with a constant value of -5.291. The results of this study show that this equation can be used to predict the level of teacher innovation based on the organization's climate score.

The Relationship between Independent Curriculum and Team Work with Teacher Creativity

The results of the study showed that there was a very significant positive relationship between achievement motivation and teamwork together with teachers' innovation. Based on the results of the study with hypothesis test, it was found that the correlation coefficient between achievement motivation and teamwork together with teacher innovation ($r^2_{y_{12}}$) was 0.984 with the category of relationship level was moderate.

The Relationship between Independent Curriculum, Team Work, and Teacher Leadership with Teacher Creativity

Based on the results of the study with hypothesis test, it was found that the correlation coefficient between teamwork and organizational climate together with teacher innovation ($r_{y_{13}}$) was 0.989 with a moderate relationship level category. The probability value ($\text{sig } 0.000 < \text{value } 0.05$) then H_0 is rejected and it can be concluded that the coefficient of determination is significant.

CONCLUSIONS AND RECOMMENDATION

Based on the results of the empirical study, it uses a correlational research approach and SITOREM analysis through the process of data processing, statistical calculation, hypothesis testing and discussion:

1. There is a positive and very significant relationship between achievement motivation and teacher innovation, so that strengthening the independent curriculum can increase teachers' innovation with a correlation coefficient of $r_{y_1} = 0,991$ ($p > 0,01$) and a determination coefficient of $r^2_{y_1} = 0,982$.
2. There is a positive and very significant relationship between teamwork and teacher innovation, so that strengthening teamwork can increase teachers' innovation with a correlation coefficient of $r_{y_2} = 0,982$ ($p > 0,01$) and a determination coefficient $r^2_{y_2} = 0,965$.
3. There is a positive and very significant relationship between teachers and teachers' innovation so that strengthening teachers can increase teachers' innovation with a correlation coefficient of $r_{y_3} = 0,986$ ($p < 0,01$) and a determination coefficient of $r^2_{y_3} = 0,972$.
4. There is a positive and very significant relationship between the independent curriculum and the teaching teacher with the teacher's innovation so that the strengthening of the independent curriculum and the teaching teacher can increase the teacher's innovation by $r_{y_{13}} = 0,992$ ($p > 0,01$) and the determination coefficient $r^2_{y_{13}} = 0,984$.
5. There is a positive and very significant relationship between team work and teacher development with teacher innovation so that strengthening teamwork and teacher development can increase teacher innovation by $r_{y_{23}} = 0,989$ ($p > 0,01$) and determination coefficient $r^2_{y_{23}} = 0,978$.
6. There is a positive and very strong relationship significance between the independent curriculum, team work, and the teaching teacher with the teacher's innovation so that the strengthening of the independent curriculum, team work, and teaching teachers can increase the teacher's innovation by $r_{y_{123}} = 0,992$ ($p > 0,01$) and the determination coefficient $r^2_{y_{123}} = 0,985$.

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