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Improving Teacher Creativity through Strengthening Visionary Leadership, Interpersonal Communication, Adversity Intelligence, and Information Literacy: Empirical Study Using Path Analysis and SITOREM Analysis on Private MTs Teachers in Bogor Regency

¹Muhamad Sukri Situmeang, ²Bibin Rubini, ³Suhendra
^{1, 2, 3}Postgraduate Programme, Pakuan University, Indonesia

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Corresponding Author: **Muhamad Sukri Situmeang**

Abstract

Muhamad Sukri Situmeang, This study aims to analyze the improvement of teacher creativity through strengthening visionary leadership, interpersonal communication, adversity intelligence, and information literacy. The focus of this research is on private MTs teachers in Bogor Regency using the path analysis approach and SITOREM analysis. This research method is quantitative with data collection through questionnaires distributed to 100 randomly selected teachers. The results showed that strengthening visionary leadership, interpersonal communication, and adversity intelligence significantly influenced the level of teacher

creativity. In addition, information literacy was shown to have a direct and indirect impact on increasing teacher creativity through mediating variables. Through path analysis and SITOREM, a strong positive relationship was found between these variables that contribute to the development of teacher creativity in private MTs in Bogor Regency. This study contributes to the development of educational policies to improve teacher professionalism through improving leadership, communication, and adaptation skills to challenges as well as the utilization of information literacy in the learning process.

Keywords: Teacher Creativity, Visionary Leadership, Interpersonal Communication, Adversity Intelligence, Information Literacy

Introduction

Education is one of the main pillars in the development of a country. The role of teachers as educators is decisive in producing a smart, creative and competitive generation. Improving the quality of teachers is very important to realize the goals of education more optimally. Furthermore, increasing teacher creativity is a relevant aspect, considering that teacher creativity plays a major role in a more effective and innovative learning process. Quality education relies heavily on the competence and creativity of teachers to carry out their duties as educators. Teacher creativity creates interesting and effective learning experiences, which in turn can improve the quality of learning for students. Efforts to improve teacher creativity should be a priority in human resource development in the education sector. One approach to enhancing teacher creativity is to strengthen some key aspects of teachers' leadership and personal capabilities, such as visionary leadership, interpersonal communication, adversity intelligence and information literacy.

Visionary leadership directs and motivates teachers to think creatively and out of the box. Meanwhile, effective interpersonal communication can strengthen collaboration between teachers, students and other education stakeholders, creating more positive synergy. On the other hand, adversity intelligence or the ability to survive and rise from challenges is also an important factor in dealing with various obstacles that may arise in the learning process. Finally, adequate information literacy enables teachers to access, evaluate and utilize current knowledge sources to support their professional development. Meanwhile, effective interpersonal communication can strengthen relationships between individuals within the school environment, creating a collaborative climate that supports the development of new ideas. On the other hand, adversity intelligence, or the ability to persevere and rise above adversity, is an important factor in dealing with various obstacles that may arise in the learning process. In addition, adequate information literacy enables teachers to access, evaluate and utilize current sources of knowledge to support their professional development.

One way to enhance teacher creativity is through strengthening several important factors, such as visionary leadership, effective interpersonal communication, adversity intelligence and information literacy. Visionary leadership refers to a leader's ability to motivate and inspire teachers to face challenges and achieve educational goals. Good interpersonal communication is key to building productive relationships between teachers and students and among colleagues. Adversity intelligence, on the other hand, relates to a teacher's ability to overcome various difficulties and pressures that may be encountered during the learning process. Information literacy covers teachers' ability to access, manage, and utilize information effectively to support teaching quality.

This study aims to examine the relationship between these four factors to increase teacher creativity in private MTs in Bogor Regency. By using an empirical approach through path analysis and SITOREM analysis, this study is expected to provide a deeper understanding of the factors that influence teacher creativity, as well as provide recommendations that are useful for developing the quality of education at the secondary school level.

The results of a preliminary survey of 31 teachers conducted on February 20 to 28, 2023, found that there are still many teachers who do not have good creative abilities and have not practiced creative behavior in learning activities or in carrying out their duties and functions, as follows:

1. There are in terms of developing learning strategies, 53% of teachers have not presented lessons in a fun atmosphere and developed learning that requires students to think at a high level of critical thinking.
2. There are indicator of managing learning activities, 64% of teachers have not provided opportunities for all students to be actively involved in learning and have not presented exercise questions related to daily life.
3. There are indicator of using technology, 76% of teachers have not used computer media and other devices (hardware and software) in learning activities.
4. There are indicator of guiding extracurricular activities, 48% of teachers have not actively guided students in organizational activities (student council, scouts, PMR), and other activities.
5. There are of authentic assessment, a total of 75% of teachers have not carried out assessment of the process and results of student learning using various assessment techniques.
6. There are indicators and motivation to carry out their duties, 64% of teachers are not active in continuing professional development (PKB) activities and

dissemination through KKG and MGMP activities at school or outside school.

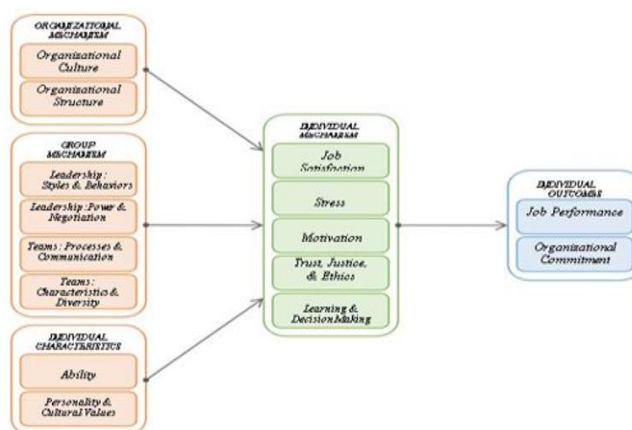
In this study, the unit of analysis studied was permanent teachers of Madrasah Tsanawiyah foundations and its locus was in private madrasahs in Bogor district. The methodology used is quantitative research. What has not been done by previous research is that in this study SITOREM (Scientific Identification Theory to Conduct Operation Research in Education Management) analysis is used, a scientific method used to identify variables (theory) to carry out "operation research" in the field of education management. SITOREM analysis is used as a method to do (1). Identify the strength of the relationship between the independent variable and the dependent variable (2) Analyze the value of the research results for each indicator of the research variable; (3) Analyze the weight of each indicator of each research variable based on the criteria of Cost, Benefit, Urgency and Importance. To follow up on the results of this SITOREM analysis, an action plan was carried out.

Library Study

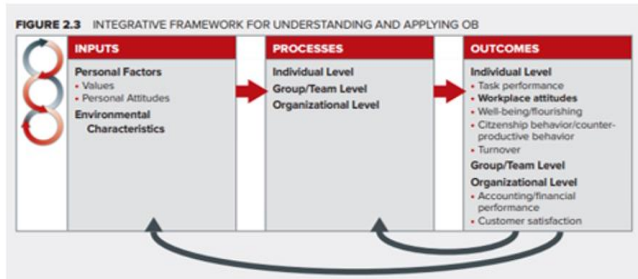
The main theory (Grand Theory) in this research is Organizational Behavior. Lately the theory has become an interesting and popular topic of discussion in many circles, not only limited to academics or educators but also among politicians and bureaucrats. This is very reasonable because organizational behavior is easy to understand, increasingly complex organizational problems, and plus various human problems with various characters and behaviors have become the main challenges that organizations often face.

An explanation of Organizational Behavior, among others, is stated by Aeni & Wiwaha (2022) that organizational behavior is the behavior of individuals and groups that have an impact on the organization. Darim (2020) in his research focuses on three determinants of behavior in an organizational environment, namely individuals, groups, and structures. In addition, the organizational behavior approach utilizes the understanding gained about individuals, groups, and the impact of structure on behavior to improve work effectiveness in an organization. Thus, an organization can be defined as an entity consisting of individuals who interact and work together to achieve their goals.

Another explanation was put forward by Colquitt *et al.* (2019) that organizational behavior is a field of study aimed at understanding, explaining, and ultimately improving the attitudes and behavior of individuals and groups in organizations. In more detail Colquitt *et al.* (2014) describe the mechanism of organizational behavior as follows:



Based on the above organizational behavior model, there are five important components of organizational behavior theory, namely Organizational Mechanisms, Group Mechanisms, Individual Characteristics, Individual Mechanisms and individual outcomes. It can be stated that organizational behavior basically has basic consistency. This means that behavior does not appear randomly, but can be predicted and then modified according to the differences and uniqueness of each individual in the organizational group.



1. The Direct Positive Effect of Visionary Leadership (X1) On Teacher Creativity (Y).

Indicators of visionary leadership: 1) optimistic and future-looking, 2) clarity in articulating the vision, 3) encouragement to members to achieve goals, 4) support for new ideas and ideas in learning, 5) utilize thinking to develop products in the field of education, and 6) dare to bear the risks of the decisions set.

Indicators of creativity are: 1) skills in developing learning strategies; 2) skills in managing learning; 3) skills in using technology; 4) guiding extracurricular activities; 5) skills in carrying out assessments; and 6) motivation to carry out tasks.

2. Direct Positive Effect Of Interpersonal Communication (X2) On Teacher Creativity (Y)

Indicators of interpersonal communication are as follows: 1) communication that occurs between two or more people, 2) in face-to-face (direct) interaction, 3) influencing each other, 4) verbal and nonverbal exchange of messages in formal and informal situations, 5) building and maintaining social relationships, 6) involving emotions and feelings, and 7) resolving conflicts.

Indicators of creativity are: 1) skills in developing learning strategies; 2) skills in managing learning; 3) skills in using technology; 4) guiding extracurricular activities; 5) skills in

carrying out assessments; and 6) motivation to carry out tasks.

3. Direct Positive Effect of Adversity Intelligence (X3) On Teacher Creativity (Y)

The indicators of adversity intelligence are as follows, namely: 1) fluency or fluency in the ability to generate various ideas, 2) flexibility to propose various models of approaches to be a way out of solving problems, 3) originality to generate ideas from their own thoughts, 4) describe or explain something in detail, 5) reformulation or reassessment of a problem or problem in a different way than usual.

Indicators of creativity are: 1) skills in developing learning strategies; 2) skills in managing learning; 3) skills in using technology; 4) guiding extracurricular activities; 5) skills in carrying out assessments; and 6) motivation to carry out tasks.

4. Direct Positive Effect of Information Literacy (X4) On Teacher Creativity (Y),

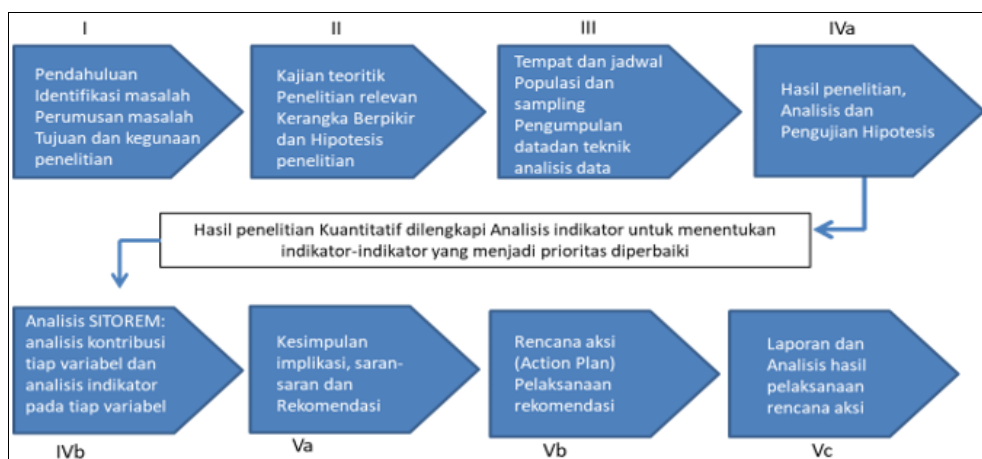
Information literacy indicators are as follows, namely: 1) accessing information effectively and efficiently, 2) evaluating information sources in depth, 3) incorporating selected information into one's pedestal, and 4) using information to achieve goals well in the right context, 5) sharing information with others if needed, and 6) solving problems.

Indicators of creativity are: 1) skills in developing learning strategies; 2) skills in managing learning; 3) skills in using technology; 4) guiding extracurricular activities; 5) skills in carrying out assessments; and 6) motivation to carry out tasks.

Research Methods

The research approach is a research plan and procedure that includes steps: From broad assumptions to detailed methods in data collection, analysis, and interpretation (Creswell, 2016: 3). The research approaches used in this study are explained as follows:

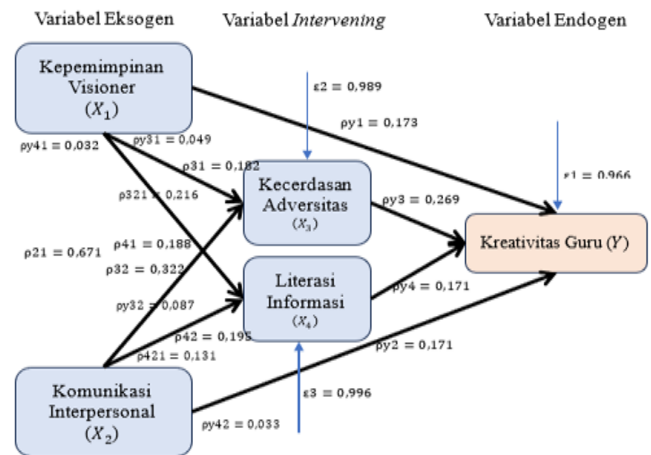
1. From the research objectives, this research is descriptive, which is a study that aims to explain the characteristics of the research variables.
2. From the type of study (type of investigation), this type of research is verification or causality (causal study), because this research wants to find the cause or causal relationship of one or more problems.



SITOREM

Path analysis and SITOREM analysis are combined research methods that combine path analysis research methods whose results are strengthened by using SITOREM analysis. Through SITOREM Analysis, the results of the Path Analysis research are analyzed in more detail on the indicators of the research variables, so as to find indicators that need to be immediately improved and maintained or developed. In the context of this study, in addition to using Path Analysis, it also uses sitorem analysis. Scientific Identification Theory to Conduct Operation Research in Education Management (sitorem), is a scientific method used to identify variables (theory) to carry out "Operation Research" in the field of Education Management (Hardhienata, 2017). SITOREM analysis is carried out by identifying and analyzing three things, namely: a) Identification of the strength of the influence between the independent variable and the dependent variable; b) Analysis of the value of the research results for each indicator of the research variable, and c) Analysis of the weight of each indicator of each research variable based on the criteria "Cost, Benefit, Urgency and Importance.

improved immediately and those that need to be maintained can be arranged. The use of SITOREM Analysis is carried out through the following stages:



a. Koefisien Jalur

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	95.614	9.578		9.983	<.001
	Kepemimpinan Visioner	.110	.050	.173	2.183	.031
	Komunikasi Interpersonal	.082	.040	.171	2.056	.042
	Kecerdasan Adversitas	.155	.050	.269	3.098	.002
	Literasi Informasi	.091	.044	.171	2.079	.040

a. Dependent Variable: Kreativitas Guru

Koefisien Jalur, $Y = 0,173X_1 + 0,171X_2 + 0,269X_3 + 0,171X_4 + \epsilon_1$

b. Tabel Anova

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	297.356	4	74.339	10.572	<.001 ^b
	Residual	864.887	123	7.032		
	Total	1162.242	127			

a. Dependent Variable: Kreativitas Guru

b. Predictors: (Constant), Literasi Informasi, Kepemimpinan Visioner, Komunikasi Interpersonal, Kecerdasan Adversitas

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
			Enter
1	Komunikasi Interpersonal, Kepemimpinan Visioner		

a. Dependent Variable: Kecerdasan Adversitas

b. All requested variables entered.

Model Summary

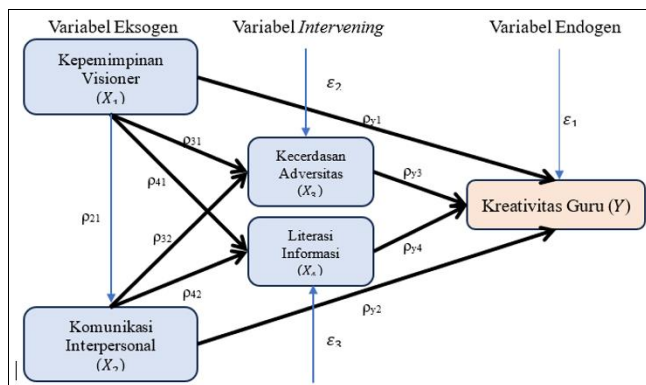
Model	R	Adjusted R Square	Std. Error of the Estimate
1	.381 ^a	.145	.131

a. Predictors: (Constant), Komunikasi Interpersonal, Kepemimpinan Visioner

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	504.276	2	252.138	10.583	<.001 ^b
	Residual	2978.193	125	23.826		
	Total	3482.469	127			

a. Dependent Variable: Kecerdasan Adversitas

b. Predictors: (Constant), Komunikasi Interpersonal, Kepemimpinan Visioner



Population is a generalization area consisting of: Objects or subjects that have certain qualities and characteristics set by researchers to study and then draw conclusions (Sugiyono, 2015). Data on certified teachers in 20 sub-districts in Bogor district.

No.	Kecamatan	Nama MTs	Jumlah Guru Profesional
1	Gunung Sindur	Al Falah	9
2	Parung	Sirojul Falah	11
3	Ciseeng	Al Manar	12
4	Kemang	Al Farabi	8
5	Rancabungur	YAMANKA	9
6	Bojonggede	AN Najah	11
7	Tajur Halang	Assaadah	7
8	Jasinga	Muhammadiyah	9
9	Parung Panjang	Al Makmur	10
10	Tenjo	Al Baqiyatus Solihat	9
11	Cigudeg	Darun Najah	7
12	Sukajaya	Al Mujhidin	9
13	Nanggung	Al Hidayah	8
14	Leuwiliang	Mualimin	12
15	Leuwisadeng	PUTI	9
16	Cibungbulang	Aulia	7
17	Ciampea	Nurul Umah	8
18	Pamijahan	Al Amin	13
19	Rumpin	Bahriatusaadah	12
20	Tenjolaya	Tarbiyatul Falah	9
	Jumlah		189

Results and Discussion

Based on the identification of the strength of influence between research variables, and based on the weight of each indicator of the independent variable that has the greatest contribution, the priority order of indicators that need to be

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Komunikasi Interpersonal Kepemimpinan Visioner ^b		Enter

- a. Dependent Variable: Literasi Informasi
- b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.285 ^a	.081	.066	5.502

- a. Predictors: (Constant), Komunikasi Interpersonal, Kepemimpinan Visioner

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	333.415	2	166.707	5.506	.005 ^b
	Residual	3784.585	125	30.277		
	Total	4118.000	127			

- a. Dependent Variable: Literasi Informasi
- b. Predictors: (Constant), Komunikasi Interpersonal, Kepemimpinan Visioner

1. Contribution Analysis (coefficient of determination)

At this stage, the contribution of the independent variables to the dependent variable is analyzed, namely by using the coefficient of determination calculation formula. The coefficient of determination is calculated from the square of the correlation coefficient (or the correlation coefficient is squared) (Supardi, 2013: 188). Based on the path analysis research design in this study, the contribution analysis can be designed as described in the table below:

S. No	Influence Between Research Variables	Path Coefficient	Coefficient of Determination	Contribution (%)
1	The Direct Positive Effect of Visionary Leadership (X1) On Teacher Creativity (Y).	$r_{y1} = 0,173$	$(r_{y1})^2 = 0,06$	6%
2	Direct Positive Effect Of Interpersonal Communication (X2) On Teacher Creativity (Y)	$r_{y2} = 0,171$	$(r_{y2})^2 = 0,096$	9,6%
3	Direct Positive Effect Of Adversity Intelligence (X3) On Teacher Creativity (Y)	$r_{y3} = 0,269$	$(r_{y3})^2 = 0,169$	16,9%
4	Direct Positive Effect Of Information Literacy (X4) On Teacher Creativity (Y),	$r_{y4} = 0,171$	$(r_{y4})^2 = 0,085$	8,5%

2. Sitorem Analysis

SITOREM ANALYSIS RESULT		
Priority order of indicator to be Strengthened		Indicator remain to be maintained
1 st	Pengetahuan yang Disebarkan	1. Pengetahuan yang Disimpan
2 nd	Keinginan unggul dalm pekerjaan	2. Pengetahuan yang Diperoleh
3 rd	Menyukai tantangan	3. Pengetahuan yang Disempurnakan
4 th	Saling Bergantung	4. Pengetahuan yang Dievaluasi
5 th	Kerjasama	5. Pengetahuan yang Diterapkan
6 th	Tanggungjawab	6. Umpan balik
7 th	Pertimbangan Individual	7. Memperhitungkan risiko
8 th	Aktivitas mandiri untuk mendalami masalah	8. Berprestasi dalam pekerjaan
9 th	Penyusunan Alternatif solusi	9. Saling kontribusi
10 th	Merancang ide kreatif untuk menjadi suatu yang efektif	10. Kesamaan Tujuan
		11. Komunikasi
		12. Pengaruh Ideal
		13. Stimulasi Intelektual
		14. Motivasi Inspiratif
		15. Aktivitas mencari ide yang mengandung kebaruan
		16. Pengumpulan informasi untuk mencari solusi

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