

Challenges and Innovation: Exploring the Impact of Transformational Leadership and Teacher Creativity

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Abstract: This study investigates the impact of transformational leadership on teachers' creativity at Madrasah Ibtidaiyah in Karawang Regency. Most teachers adhere to conventional teaching approaches and do not incorporate novel concepts or advancements, as evidenced by the 65% success rate. The data was analyzed using quantitative methodology, which included surveys and analytical techniques. The study found that transformational leadership significantly impacted teacher creativity. The T-Statistics values of 3.331 exceeded the critical T-table value of 1.699, and the P-Values of 0.000 were less than the significance level of 0.05. The research hypothesis states that transformational leadership positively affects teacher creativity in Karawang.

Keywords: Transformational Leadership, Teacher Creativity, Structural Equation Modeling

Creativity plays a central role in developing students' potential, opening up opportunities for innovation, and being prepared so that they are able to face complex challenges in an ever-changing world. The essence of education is not just about transferring knowledge, but also about educating students to become problem solvers, innovators, and critical thinkers. Creativity as a potential is available to everyone and must be mastered. Where creativity is defined as a person's ability to produce unique works of art, new ideas, innovative solutions, or works of art (Yuliyanto et al., 2023). It also includes the ability to think "outside the box" and connect ideas that may not have seemed related before. The ability to create something new, including real ideas or works, is called creativity (Al-Furqon et al., 2023). Creativity is not just limited to art or the field of artistic expression; it can also occur in many different fields and disciplines, such as technology, business, education, or everyday life.

Creativity is a trait or characteristic of a creative individual. Guilford found that the ability to think creatively has five traits: flexibility, flexibility, creation, and redefinition (Ismail, 2019).

The ability to conceptualize in an unconventional way is called flexibility, the ability to elaborate in detail is called elaboration, fluency is the ability to generate various concepts and the ability to see problems from different points of view from the knowledge of others is called redefinition. Creativity is the ability to create something new and better. It has both cognitive and noncognitive traits, such as fluency, flexibility, elaboration, and originality. Noncognitive traits also include the desire to act, behave, and be creative (Kasmur et al., 2021).

Some of the main problems of Madrasah Ibtidaiyah teachers expressed by Madrasah supervisors include teachers not conducting a comprehensive Approach, Presentation, Imitation, Activities, Evaluation, and Monitoring (PAIKEM) in the learning process. Not all teachers use teaching aids in the learning process, which can affect the effectiveness and attractiveness of learning for students. Low teacher creativity outcomes, as reflected by 65% achievement, indicate that most teachers only do ordinary things in learning without efforts to develop new concepts or innovations. A curriculum that is dense and full of material, which

must be covered in a limited time, becomes a challenge for teachers to provide sufficient time for exploration and creativity in learning. so that there needs to be more intensive efforts in coaching both from the leadership for Madrasah Ibtidaiyah teachers in Karawang Regency so that it can improve the quality of learning, creativity, and teacher innovation, as well as better mastery of material in order to achieve more optimal educational goals.

Creative development is the key to success which lies in creative and efficient teaching in conducive interactions. Creative teachers always prioritize the interests, developments, potentials, and needs of learners so that they can communicate, think critically, and creatively in their environment, and can overcome future challenges. Creative teachers are not only formed from training and development, but also need mentoring, ongoing coaching and leaders need to reward and recognize achievements or performance to teachers (Sudrajat et al., 2020). Pemimpin transformasional terlibat dalam empat kunci perilaku pemimpin diantaranya sebagai motivasi inspirasi, pengaruh ideal, Pertimbangan individual dan Stimulasi intelektual (Kreitner & Kinicki, 2010).

According to Jason A. Colquitt's theory, transformational leadership is leadership that encourages subordinates to achieve greater organizational goals and enhances creativity and innovation (Colquitt et al., 2015). The transformational leadership approach gives teachers the power to be creative and develop themselves. In this approach, teachers feel supported, motivated, and confident that they can influence the growth of their students. Better teaching, better student learning outcomes, and more effective teachers are the results of transformational leadership (Kesuma et al., 2021).

Several studies have stated that one component that can influence teacher creativity is transformational leadership. According to Jauhari et al., (2020) The results showed that teacher creativity was significantly influenced by transformational leadership, in line with the results of the study Azim et al., (2019) who argue that transformational leadership has a positive impact on creativity. Meanwhile, the results of the study Palupi, (2020) revealed that creativity is influenced by four dimensions of transformational leadership, namely motivational drive, ideal influence, cognitive stimulation, and personal consideration.

Based on the phenomenon that occurs, the purpose of this study is to identify and evaluate the

effect of transformational leadership on the creativity of Madrasah Ibtidaiyah teachers in Karawang Regency. The creative role of teachers in primary schools or Madrasah Ibtidaiyah is essential to cultivate students' potential and prepare them to face future problems, and open opportunities for innovation. Education is not only about transferring knowledge, but also about guiding students to become innovators, problem solvers, and critical thinkers. From the description of the theory above, the hypothesis in this study can be briefly described in the form of a theoretical framework as follows :

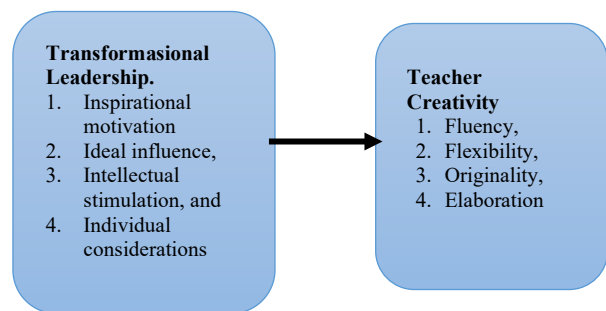


Figure 1. Theoretical Framework

METHOD

This research uses quantitative descriptive methods through surveys as its instrument. In this study, In this study, the population consisted of 191 teachers and 11 Madrasah Ibtidaiyah schools in Karawang Regency. The sample was surveyed using the slovin formula with a precision level of 5% or 0.05 and a confidence level of 95%. Thus, a sample is taken from each school by counting the number of teachers, multiplying the number of samples, and then dividing by the number of population. From a population of 130 teachers were sampled with a simple random sampling technique used; The number of samples is calculated by drawing lots using the Slovin formula. The instrument used was a questionnaire with Likert scale scores. Instruments are prepared by considering aspects including: determining variables, finding dimensions, making indicators, making instrument grids and formulating questions with SmartPLS and Structural Equation Modeling (SEM) data analysis methods which are carried out in three stages: First, evaluation of measurement models (outside the model), second, evaluation of structural models (in the model), and third, hypothesis testing.

RESULTS AND DISCUSSION

This study used several variables to measure the creativity of teachers in Karawang. There are three nominal (categorical) variables including: Gender, employment status and length of service. Respondents consisted of 93 women and 37 men. The employment status is categorized into two: 75 non-permanent teachers and 55 permanent teachers. There were 80 people with a working period of more than 3 years or 61.3% and 50 people with a working period of less than 3 years or 38.7%.

Outer Model Evaluation

Convergent Validity

The validity convergen test is used to prove that the statements on each latent variable in this study can be understood by respondents in the same way as intended by the researcher. Item reliability, or indicators of validity, are evaluated for convergent validity. The loading factor value is a number that shows the correlation between the score of the question item and the score of the contract indicator, an indicator that measures the contract.

To determine the validity of a construct, the convergent validity value is used. Construction is considered valid if the factor load value is greater than 0.70 (Hair et al., 2021). In the convergent validity evaluation of individual item reliability examinations, it can be seen from the standardized loading factor. Standardize loading factor describes the magnitude of the correlation between each indicator item and its contract. The outer loading value of each indicator in the research variable can be seen in the following table:

Table 1. Outler Loading Value

Variable	Variable Laten	Indicator	Outler Loading	Ket.
Transformational Leadership (X1)	PI	TR1	0,865	Valid
		TR2	0,861	Valid
		TR3	0,882	Valid
		TR4	0,895	Valid
		TR5	0,897	Valid
		TR6	0,908	Valid
		TR7	0,908	Valid
		TR8	0,913	Valid
		TR9	0,889	Valid
	MOI	TR10	0,802	Valid
		TR11	0,859	Valid
		TR12	0,820	Valid
		TR13	0,844	Valid
		TR14	0,890	Valid
		TR15	0,819	Valid
		TR16	0,895	Valid
		TR17	0,879	Valid
		TR18	0,888	Valid
		TR19	0,881	Valid
		TR20	0,711	Valid

Variable	Variable Laten	Indicator	Outler Loading	Ket.
Theacher Creativity (Y)	SI	TR21	0,867	Valid
		TR22	0,800	Valid
		TR23	0,715	Valid
		TR25	0,892	Valid
		TR26	0,880	Valid
		TR27	0,923	Valid
		TR28	0,897	Valid
		TR29	0,896	Valid
		TR30	0,891	Valid
		TR31	0,902	Valid
		TR32	0,914	Valid
		TR33	0,884	Valid
	TR34	0,934	Valid	
	TR35	0,875	Valid	
	TR36	0,874	Valid	
	PIN	TR37	0,930	Valid
		TR38	0,881	Valid
		TR39	0,914	Valid
		TR40	0,912	Valid
		TR41	0,886	Valid
		TR42	0,893	Valid
		TR43	0,803	Valid
		TR45	0,891	Valid
		FS	CR1	0,836
	CR2		0,852	Valid
	CR3		0,810	Valid
	CR4		0,850	Valid
	CR5		0,868	Valid
	CR6		0,870	Valid
	CR7		0,795	Valid
	IB	CR8	0,847	Valid
		CR9	0,881	Valid
		CR10	0,877	Valid
		CR11	0,838	Valid
		CR12	0,857	Valid
		CR15	0,903	Valid
PB	CR16	0,855	Valid	
	CR17	0,894	Valid	
	CR18	0,862	Valid	
	CR19	0,821	Valid	
	CR20	0,891	Valid	
	CR21	0,778	Valid	
	CR22	0,881	Valid	
	CR23	0,884	Valid	
EL	CR24	0,827	Valid	
	CR25	0,790	Valid	
	CR26	0,863	Valid	
	CR27	0,827	Valid	
	CR28	0,820	Valid	
	CR29	0,879	Valid	
	CR30	0,871	Valid	
	CR31	0,713	Valid	
	CR32	0,816	Valid	
	CR33	0,882	Valid	
	CR34	0,852	Valid	

Based on the results of the loading factor score in table 1, it can be seen that the outer loading value of each indicator of the bound variable and independent variable is green and greater than 0.7. It can be concluded that the convergent validity assumption based on the loading factor has been fulfilled or is valid.

Discriminan Validity

The criteria for a good AVE (Average Variance Extracted) value is above 0.5. The AVE values for this study are shown in table 2.

Composite Realibility and AVE

Table 2. Construction of Reliability and Validity

Variable	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Theacher Creativity (CR)	0,965	0,965	0,968	0,628
FS	0,983	0,983	0,984	0,707
IB	0,950	0,953	0,958	0,739
PB	0,931	0,932	0,944	0,740
EL	0,966	0,967	0,970	0,693
Transformasional Leadership (TR)	0,968	0,970	0,972	0,780
PI	0,962	0,964	0,968	0,794
MOI	0,978	0,978	0,980	0,698
SI	0,984	0,984	0,985	0,804
PIN	0,946	0,952	0,952	0,791

Overall, all variables are considered valid because they have an AVE value greater than 0.5, as shown by the results of the analysis conducted in table 2 on discriminant validity through the extracted average variation indicator. This is because the transformational leadership variable has an AVE of 0.780, while the teacher creativity variable has an AVE of 0.628. Furthermore, the table shows that composite reliability for all variables exceeds 0.70, and Cronbach alpha reliability for all variables exceeds 0.60. From the results of composite reliability calculations and Cronbach's Alpha, it can be concluded that it is valid and has a fairly high reliability.

Coefficient of determination (R)

How well the model is able to explain endogenous variation is measured by the coefficient of determination. Structural models, also known as Linear Models, are used to predict causality relationships between latent variabels. The structure is called the R-Square value.

Table 3. R-Square value

R-Square	Prediction Models
CR	0,196 Weak Model

The tool to measure the questionnaire as an indicator of the variables or constitutions in this study is referred to as the reliability test. This test is carried out to determine the items of the research instrument. Composite reliability and Cronbach's alpha are two standards used to measure construct reliability. If the composite reliability value is more than 0.7 and Cronbach's alpha value is more than 0.6 then the construct is considered reliable (Hair et al., 2021). Table 2 below shows the results of reliability test calculations on composite reliability and Cronbach's Alpha:

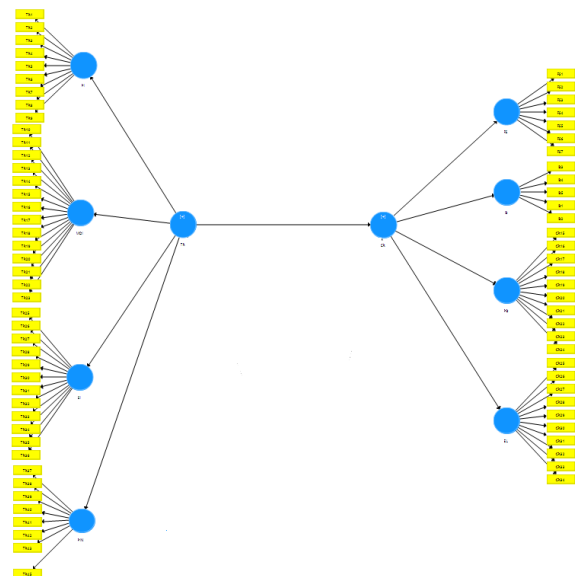


Figure 1. Inner Model

The grouping of R-square values is divided into 3 categories, namely: First the strong category if the R-square has a value of 0.75; Both categories are moderate if R-Square has a value of 0.50; and the third category is weak if the R-Square has a value of 0.25 (Hair et al., 2021). Based on the calculation results through SmartPLS in table 2, it can be described that the variable With an R-square value of 0.196, teacher creativity (CR) shows that the ability to vary which can be explained by the variables flexibility, ability to generate new ideas, openness to new experiences, and the ability to

develop ideas against teacher creativity variables of 19.6% is included in the weak category.

Hypothesis Test

To examine the hypothesis of direct influence, there are two conditions. First, the path coefficient, which means the probability/significance value, or P value. A negative path coefficient means the influence of one variable on another variable in the opposite direction, meaning that if the value of a variable increases or increases, the value of another variable also increases or increases. If the P-Values value is less than 0.05, it has a significant effect, and if the P-Values value is more than 0.05, it has no significant effect.

Table 4. Path coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
TR -> CR	0,369	0,371	0,111	3,331	0,000

By using bootstrapping in SmartPLS, the relationship between variables can be seen in figure 2. Then obtained the results of Path Coefficient and T-statistics.

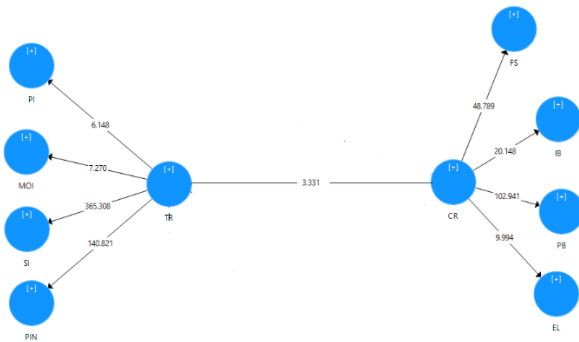


Figure 2. Output Bootstrapping (direct effect)

The direct influence is determined by the following criteria, in table 4 it can be known If it has a value greater than or equal to 0.05 for P-values then the value is significant, indicating that the variable has a direct positive effect; conversely, if the value is less than or equal to 0.05 for P-values, then that value is not significant, indicating that the variable has no direct effect. Based on the results of the calculation of the path coefficient (direct effect) can be seen in table 4 with the value of direct Effects on TR→ CR is 0.000, and the value of P-Values 0.000 < 0.05 or it can be stated that P-values are smaller than 0.05, thus proving that

The critical value of Path coefficients indicated by the value of t, for the one-tiled testing hypothesis with a confidence level of 95% (alpha 5%), the one-tiled hypothesis is ≥ 1.699 (Ariska et al., 2019). The statistical significance value can be used to find out how significant the influence between latent variables is. The significance value of the parameter coefficient can be calculated using the bootstrapping method. Bootstrapping is a non-parametric procedure that can be used to test whether coefficients such as external load, outside load, and path ratio are significant by estimating the error standard for the estimate. In this test, bootstrapping is done on a subsample with a significance level of 0.1. The path of the coefficients is shown in table 4 below:

transformational leadership has a significant effect on teacher creativity.

CONCLUSION

The conclusion of the analysis carried out can be concluded that there is a significant direct influence of transformational leadership (TR) on teacher creativity (CR). This can be seen from the resulting path coefficient (direct effect) value, where the value is 0.000, and the P-Values obtained are 0.000, which is smaller than 0.05.

This significant direct influence suggests that transformational leadership positively influences teacher creativity. In other words, the higher the level of transformational leadership possessed, the higher the level of creativity of the teacher he has. Therefore, the results of this analysis provide strong evidence that transformational leadership has an important role in increasing teacher creativity, and can be used as a reference in efforts to develop leadership and increase creativity in the field of education.

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