THE EFFECT OF TRANSFORMATIONAL LEADERSHIP STYLE AND SELF-EFFICACY ON TEACHER INNOVATION AT SMK NEGERI 22 JAKARTA

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ABSTRACT

This study aims to analyze the effect of transformational leadership style and self-efficacy on teacher innovation at SMK Negeri 22 Jakarta. The approach used is quantitative with survey method and multiple linear regression analysis technique. The study population was all 52 teachers of SMKN 22 Jakarta, which were sampled using saturated sampling technique. The data collection instrument used a questionnaire that had been tested for validity and reliability. The results showed that transformational leadership style had a positive and significant effect on teacher innovation. Self-efficacy also shows a positive and significant influence on teacher innovation. Simultaneously, the two variables contributed 61.4% to the teacher innovation variable. This finding shows that the inspirational leadership style of the principal and the level of teachers' confidence in their own abilities are important factors in encouraging innovative behavior in learning. Therefore, strengthening teachers' self-efficacy and implementing transformational leadership in the school environment are relevant strategies to improve the quality of education. Keywords: transformational leadership style, self-efficacy, teacher innovation.

Keywords: Teacher, Innovation, Self-efficacy, Transformational Leadership

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh gaya kepemimpinan transformasional dan efikasi diri terhadap inovasi guru di SMK Negeri 22 Jakarta. Pendekatan yang digunakan adalah kuantitatif dengan metode survei dan teknik analisis regresi linier berganda. Populasi penelitian adalah seluruh guru SMKN 22 Jakarta sejumlah 52 orang, yang dijadikan sampel menggunakan teknik sampling jenuh. Instrumen pengumpulan data menggunakan kuesioner yang telah diuji validitas dan reliabilitasnya. Hasil penelitian menunjukkan bahwa gaya kepemimpinan transformasional berpengaruh positif dan signifikan terhadap inovasi guru. Efikasi diri juga menunjukkan pengaruh positif dan signifikan terhadap inovasi guru. Secara simultan, kedua variabel tersebut memberikan kontribusi sebesar 61,4% terhadap variabel inovasi guru. Temuan ini menunjukkan bahwa gaya kepemimpinan kepala sekolah yang inspiratif serta tingkat kepercayaan diri guru terhadap kemampuannya masing-masing merupakan faktor penting dalam mendorong peningkatan perilaku inovatif dalam pembelajaran. Oleh karena itu, penguatan efikasi diri guru dan penerapan kepemimpinan transformasional di lingkungan sekolah menjadi strategi yang relevan untuk mendorong peningkatan mutu pendidikan. Kata kunci: gaya kepemimpinan transformasional, efikasi diri, inovasi guru.

Keywords: Guru, Inovasi, Efikasi Diri, Kepemimpinan Transformasional

INTRODUCTION

Education is the most important effort to educate the nation's life in order to create a more civilized and highly cultured life development. In essence, the educational process takes place throughout human life (Widuri, 2020) . The national education system is the legal basis for the implementation and reform of the national education system regulated in Law of the Republic of Indonesia Number 20 of 2003 which contains the vision, mission, functions, and objectives of national education to realize quality national education, relevant to the needs of society and competitive in global life.

The teacher is a figure who can be used as a role model, role model, and guide in every social activity where in Javanese terms it is stated that the teacher is a figure who is digugu and imitated (Munawir et al., 2022) . Although there are many challenges that educators may face during the learning process, the achievement of learning objectives shows the effectiveness of educators in the teaching and learning process. Students who understand the material taught by

the teacher and apply it in everyday life is one sign that the learning objectives have been achieved (Sopian, 2016).

As part of the functions, responsibilities, and duties in the classroom, the teacher as the main role in the implementation of student learning that contributes to ensuring national and school education goals are achieved to the best of his ability as a teacher. By having the goal that students can compete in the education system based on information, ability and attitude competencies, teachers must be able to shape and reshape their students' personalities (Amran, 2015) .

The lack of innovative teachers was conveyed by Harris Iskandar as the Director of Senior High School Development, Directorate General of Secondary Education, Ministry of Education and Culture (Kemendikbud) cited in Indah and Anggraini (2022) that currently there are still many teachers who are not innovative, even though teachers can still utilize the internet to develop innovation. Among the 5.6 million teachers in Indonesia, only about 2% of teachers are innovative, which means 98% of teachers are not innovative (Indah & Anggraini, 2022) . Innovation is carried out to answer educational problems, which with innovation, creativity and continuous effort will find new ways and can make things better.

In education, innovations can appear as new pedagogical theories, methodological approaches, teaching techniques, learning tools, learning processes, or institutional structures that when implemented result in significant changes in teaching and learning that lead to better student learning. Thus, innovation in education is intended to increase the productivity and efficiency of learning and/or improve the quality of learning (Serdyukov, 2017) . Teachers in schools today are required to be more innovative in order to improve the quality of education and effectiveness and efficiency in learning (Hasan, 2023) .

SMK Negeri 22 Jakarta, located in Pasar Rebo, has 4 expertise programs and 52 teachers with diverse age backgrounds and teaching experience. Each teacher has different teaching methods. Through pre-research in the form of a questionnaire, it is known that most teachers prefer to use standard teaching materials rather than develop their own, and feel that the methods used are quite effective. This shows that the level of teacher innovation, especially in developing and implementing new ideas, is still not optimal.

Teachers' innovative behavior is the result of the interaction of various factors that come from within the individual as well as from the work environment and organization where the teacher is located. Internal factors such as self-efficacy are one of the main determinants, where teachers who have high confidence in their abilities are more likely to engage in learning innovation. Creativity, intrinsic motivation and proactive personality also encourage teachers to create and implement new ideas. In addition, emotional intelligence plays an important role in helping teachers face challenges and manage emotions positively when implementing innovations (Ningrum & Abdullah, 2021) .

Further pre-research results were conducted to determine teacher perceptions of the principal's leadership style at SMK Negeri 22 Jakarta. The findings indicated that most teachers felt active support from the principal to innovate, which is one of the main characteristics of transformational leadership, especially in the dimensions of *inspirational motivation* and *intellectual stimulation*. Transformational principals encourage teachers to think creatively, try new approaches and not get stuck in conventional methods. Therefore, this data provides an initial basis to support that principals at SMKN 22 Jakarta have demonstrated the characteristics of transformational leadership in practice.

Thus, teachers' innovative behavior is not the result of a single aspect, but rather a synergy of various individual and environmental factors that interact and reinforce each other in the context of the school organization. Therefore, efforts to increase teacher innovation need to be carried out comprehensively, especially through strengthening teachers' self-efficacy so that they are more confident in exploring and implementing new ideas, as well as through the

application of transformational leadership by principals who are able to inspire, motivate and create a school climate that supports innovation.

Transformational leadership style is one component that is thought to have an impact on teacher innovation. This leadership style is characterized by leaders who inspire , inspire, and provide a clear vision to motivate and persuade subordinates to reach their maximum potential (Rahayu et al., 2018) . Transformational leadership attitudes can foster an atmosphere that values and supports innovation. Apart from the transformational leadership style, teacher self-efficacy is also thought to have an impact on teacher innovation. Self-efficacy is described in a person's belief in their ability to complete tasks (Wulansari et al., 2023) . Teachers who have a high level of self-efficacy are more likely to implement innovations because they have confidence in their abilities.

Based on the various facts above, it shows that teacher innovation is a major aspect in achieving educational success in schools. The fact of low teacher innovation has underpinned the importance of an assessment of factors that have the potential to influence teacher innovation including transformational leadership factors and self-efficacy. This is supported by research by (Sunardi et al., 2019) which shows that there is a significant positive relationship between transformational leadership and teacher innovation, there is a positive relationship between *self-efficacy* and teacher innovation, and there is a significant positive relationship between transformational leadership and *self-efficacy* together with teacher innovation. In addition, research by (Pestalozi et al., 2019) which found that transformational leadership has a significant positive effect on teacher innovativeness. However, research by (Pestalozi et al., 2019) shows that the principal's transformational leadership style has no significant effect on teacher innovation.

In addition to transformational leadership factors, self-efficacy also has the potential to influence teacher innovation. This is in line with research by (Ramadhan, 2023) which shows that there is a positive or unidirectional and very strong relationship between self-efficacy variables and innovative behavior variables. In line with Ramadhan, according to research (Tirmizi et al., 2020) self-efficacy affects teacher innovativeness. There is also research (Kelley et al., 2020) which explains that self-efficacy can be the basis for a teacher's footing in increasing innovativeness which is described by belief in innovative performance. a teacher will be able to improve teacher professionalism if self-efficacy develops optimally.

The difference in study results shows that teacher innovation is influenced by a variety of complex factors. Most studies have only highlighted one variable and have not discussed in depth the combination of external leadership and internal psychological factors. Therefore, this study aims to analyze the influence of transformational leadership style and self-efficacy on teacher innovation at SMK Negeri 22 Jakarta, in order to provide a more thorough understanding and recommendations for better educational practices.

LITERATURE REVIEW
Transformational Leadership Style

Suparman (2019) states that leadership is an ability or strength in a person in influencing others to work towards achieving predetermined organizational goals (Suparman, 2019) . Another definition states that leadership is the process of appreciating others to understand and agree on what needs to be done and how it can be done effectively, and the process of facilitating individual or group (collective) efforts to meet key objectives (Nurhalim et al., 2023) .

Transformational leadership style characterizes the leadership of a leader who can understand the needs of his followers or other employees and is able to motivate them (Bernarto et al., 2020) . Transformational leadership style is a form of leadership in which a leader is able to stimulate and inspire his followers to achieve certain goals. Its characteristics include the

ability to build a resilient work culture, empower subordinates, act on value systems, improve capabilities continuously, and deal with complex situations. Transformational leaders are able to create great change, both within themselves and their organizations, and inspire their followers to believe in their own potential to create the future.

The transformational leader has several behavioral components that demonstrate his leadership, namely *individualized influence* refers to the leadership behavior of principals who can be recognized, trusted and exemplified by teachers. *Inspirational motivation* refers to the leadership behavior of the principal in providing high motivation to school residents, especially school members. *Intellectual stimulation* refers to the principal's leadership behavior in providing innovative and constructive stimulation. *Individualized consideration* refers to the leader's behavior to give attention to members individually.
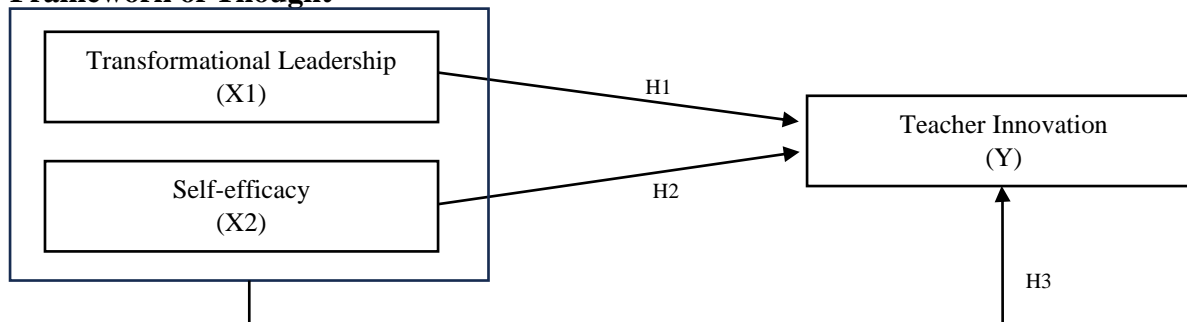
Self-efficacy

Zagato (2019) reveals that self-efficacy is an individual's belief or belief regarding his ability to organize, perform tasks, achieve a goal, produce something and implement actions to display certain skills (Zagoto, 2019) . According to Minarni (2020) self-efficacy is a belief that gives encouragement to individuals in doing and achieving something according to their abilities. Self-efficacy as a teacher will have a major impact on the quality of learning experienced by students. Because teachers' self-efficacy affects their choice of activities, goals, effort, and persistence. Problems that teachers often face such as physical performance, academic tasks, performance at work, the ability to overcome anxiety and depression can be improved through self-efficacy (Minarni, 2020) .

Based on Bandura's perspective in (Cahyadi, 2022) , self-efficacy can be changed, obtained, increased or decreased, through 4 factors, namely performance experience, vicarious experience, social persuasion, and emotion generation. Performance experience states the experience of achievements obtained in the past. Then, vicarious experience compares the experience gained by oneself with the experience gained by others whose results are similar to oneself can affect one's self-efficacy. Social persuasion is explained as a process in which a person is influenced by encouragement, support, feedback, or advice from others to increase their confidence in their ability (self-efficacy) to perform a task or achieve a certain goal. Lastly, social arousal refers to how a person's emotional responses and physical condition can affect their self-efficacy.

Teacher Innovation

The definition of innovation etymologically comes from the word innovation which means "renewal; change (in) new". The definition of innovation according to Kusmana (2010) in Setijaningrum (2017) Innovation is the result of creating something that is considered new which is intended to overcome problems, both in the form of ideas, goods, events, methods and so on carried out by a person/group (Setijaningrum, 2017) . According to Ekawati & Wardono (2014) in Monoyasa et al. (2017) define that innovative culture is a process that aims to create new knowledge to obtain solutions that can be applied further. So that new innovations are needed to solve these problems to find the right way of teaching for students. Teacher innovation is the behavior of individuals in pouring creative ideas in the form of ideas, products or services to solve problems to create quality learning (Monoyasa et al., 2017) .

Teacher innovation has several indicators, namely receiving new ideas, creating new ideas, applying new methods in learning, implementing changes in learning, evaluating changes in learning, and the benefits / results achieved (Wahardi et al., 2017) . Meanwhile, according to Stephen P. Robbins (2003: 571-572) in Sunardi et al. (2019), states that innovation is a new idea that is applied to start or improve a product, process or service (Sunardi et al., 2019) . The related factors according to Stephen P. Robbins are products, namely creating new products, processes, namely applying new methods, and services/services, namely a new standard system.

Framework of Thought

Figure 1. Thinking Framework

Description

X1   : Transformational Leadership
X2   : Self-efficacy
Y   : Teacher Innovation
⟶   : Direction of relationship from variable X to Y

METHOD

This research was conducted at SMK Negeri 22 Jakarta, which is located at Jalan Raya Condet No. 12, RT 12/RW 3, Gedong, Pasar Rebo Sub-district, East Jakarta City, 13760. The selection of this location is based on the characteristics and problems relevant to the research topic related to transformational leadership, self-efficacy and teacher innovation. Then, this research uses a quantitative approach. A quantitative approach is research that uses data in the form of numbers that are quantitative in nature, to be able to predict population conditions, or future trends. quantitative research allows generalization for the results, which are calculated by statistical analysis (Mukhid, 2021) . The method used in this research is the survey method with multiple linear regression techniques. Multiple linear regression analysis is a statistical technique used to model the relationship between one dependent variable (dependent) and two or more independent variables (independent) (Binus, 2021) . This study involves two independent variables, namely transformational leadership style (X1) and self-efficacy (X2) and one dependent variable, namely teacher innovation (Y). Multiple linear regression analysis technique is an appropriate method to analyze the effect of two or more independent variables on one dependent variable. This technique helps researchers to measure the extent to which each independent variable affects the dependent variable, and also see if there is a joint influence of the two independent variables on teacher innovation.

Population and Sample

Population is a set of objects, things, events or individuals that will be studied in a study. The population in this study were all teachers at SMK Negeri 22 Jakarta, totaling 52 teachers. The sample is a representative part of the population from which the data is taken directly. This study has a population that does not reach more than 100 respondents, so the sampling technique used in this study is to use *non-probability sampling* techniques, namely saturated sampling. Saturated sampling or also known as *census sampling* is a sampling technique when all members of the population are used as samples, provided that the population is not large or the researcher wants to make generalizations with very small errors. In accordance with this study, the population of teachers of SMKN 22 Jakarta was 52 people, so the number of samples in this study was 52 people. The use of this technique was chosen because the population in this study was relatively small and still within the limits of the researcher's ability to reach all respondents. The population that is the subject of research is all teachers at SMKN 22 Jakarta, which is not too large in number so it is possible to involve all teachers without carrying out a certain sampling process.

Instrument Development

Data collection instruments in this study were using questionnaires and scales. The questionnaires and scales used were distributed to respondents, namely to all teachers at SMKN 22 Jakarta to obtain the data needed for this study. In calculating the data, the questionnaires and scales in this study used a *rating scale* which is a series of answer choices which respondents are asked to use in indicating their response or attitude towards statements related to the research. The instrument grids of teacher innovation, transformational leadership style, and self-efficacy are stated as follows.

Table 1. Lattice of Teacher Innovation Variable Instrument

Variable	Dimensions	Indicator
Teacher Innovation (Ningrum & Abdullah, 2021)	Acceptance of new ideas	Seeking new information or knowledge related to learning
		Observing other learning practices for reference
		Active in discussion forum
	Idea development	Generate new ideas to improve learning
		Adjust teaching materials according to students' needs and characteristics
	Implementation of new ideas	Using new learning technology or media.
		Evaluating the results of implementing innovations in learning

Source: Data processed by the author

Table 2. Instrument Lattice of Transformational Leadership Variables

Variable	Dimensions	Indicator
Transformational Leadership (Kuswaeri et al., 2016)	Inspirational Motivation	Provide support for what needs to be done by using encouraging words
		Aligning individual and organizational goals
	Idealized Influence	Generates optimism
		Being a role model for followers
	Individualized Consideration	Attends to the needs of his/her followers
		Providing learning opportunities and empowering followers
	Intellectual Stimulation	Instilling a critical attitude
		Encourages creativity and innovation

Source: Data processed by the author

Table 3. Instrument Lattice for Self-Efficacy Variables

Variable	Dimensions	Indicator
Self-efficacy (Cahyadi, 2022)	*Level* (Level of difficulty)	Confidence in ability to deal with uncertain situations
		Confidence in the ability to motivate oneself to complete a specific task
	Generality	Flexibility in facing various challenges and ability to adapt to new situations
	Strength	The intensity of an individual's belief in the ability to face obstacles and be able to recover from failure.
		Positive attitude and optimism in facing challenges in completing tasks to achieve predetermined targets

Source: Data processed by the author

Data Collection Techniques

Researchers use a number of procedures known as data collection techniques to compile information from various related sources. The purpose of data collection is to find answers to questions or problems that have been previously set. The main data source for this research is the questionnaire data collection method. (Sugiyono, 2017) defines questionnaire as a data collection method in which participants are given a list of written statements or questions to fill out. Open-ended or closed-ended statements or questions may be included in the questionnaire, which can be distributed online, by mail, or directly to respondents. This research modifies and extends questionnaires that are already available from several previous studies and articles. To collect information about the variables to be measured in the study, the researcher administered a questionnaire to each research sample. Therefore, collecting primary data through questionnaires given to respondents is the main purpose of this study.

Data Analysis Technique

Data analysis is the process of methodically searching and organizing information obtained from field notes, interviews, and documents so that it can be understood and the results shared with others (Sugiyono, 2017) . To ensure that the findings of data analysis are easily understood by researchers and others, the process requires classifying data, dividing it into smaller units, synthesizing it, organizing it into certain patterns of relationships, selecting the most important elements for further investigation, and drawing conclusions. The data analysis technique used in this study uses multiple linear regression parameters. Data processing using the *Statistical Product and Service Solution* (SPSS) version 31 program with a sample size of 56 people. The steps in conducting data analysis include normality test, linearity test, classical assumption test, multiple linear regression analysis, hypothesis testing, and coefficient of determination test.

RESULTS AND DISCUSSION

Data Description

The research was conducted at SMK Negeri 22 Jakarta with all teachers at SMK Negeri 22 Jakarta as respondents. This research begins with distributing instruments in the form of questionnaires to 52 teachers through Google Form media. Furthermore, respondents were grouped based on gender and length of service as a teacher. The respondent profile is described in Table 4. Respondent data is grouped by gender. There were 29 female respondents and 23 male respondents. Then, respondent data is classified based on length of service. The working period is grouped into 3 groups, namely 1-5 years of service as many as 32 respondents, 5-10 years of service as many as 5 respondents, and more than 10 years of service as many as 15 respondents.

Table 4. Data Description

Respondent Profile Based on Gender		Respondent Profile Based on Length of Service	
Gender	**Number**	**Length of Service**	**Total**
Male	23	1 - 5 Years	32
Female	29	5 - 10 Years	5
Total	**52**	> 10 Years	15

Source: Data processed by the author

Validity and Reability Test Analysis

Based on Table 5, the calculation results show that 14 questionnaire items on the Transformational Leadership Style variable are declared valid and meet the validity criteria.

Table 5. Transformational Leadership Style Variable Questionnaire Validity Test Results

Item No.	R Count	R Table 5% (50)	Criteria
1.	0,640	0,279	VALID
2.	0,602	0,279	VALID
3.	0,593	0,279	VALID
4.	0,64	0,279	VALID
5.	0,686	0,279	VALID
6.	0,346	0,279	VALID
7.	0,287	0,279	VALID
8.	0,535	0,279	VALID
9.	0,427	0,279	VALID
10.	0,484	0,279	VALID
11.	0,526	0,279	VALID
12.	0,455	0,279	VALID
13.	0,436	0,279	VALID
14.	0,495	0,279	VALID

Source: Data processed by the author

Based on Table 6, the transformational leadership style variable (X1) in this study has a *Cronbach's Alpha* value of 0.912, which reflects an excellent level of reliability. Based on the table above, this value exceeds the threshold of 0.60, so this variable is considered reliable. Thus, it can be concluded that the instrument used to measure the transformational leadership style variable (X1) in this study has a high level of consistency and confidence.

Table 7. Transformational Leadership Style Variable Questionnaire Reliability Test Results

Reliability Statistics	
Cronbach's Alpha	N of Items
0,873	14

Source: Data processed by the author

Based on Table 8, the calculation results show that 12 questionnaire items on the self-efficacy variable are declared valid and meet the validity criteria.

Table 8. Results of the Validity Test of the Self-Efficacy Variable Questionnaire

Item No.	R Count	R Table 5% (50)	Criteria
1.	0,567	0,279	VALID
2.	0,472	0,279	VALID
3.	0,588	0,279	VALID
4.	0,469	0,279	VALID
5.	0,608	0,279	VALID
6.	0,483	0,279	VALID
7.	0,285	0,279	VALID
8.	0,436	0,279	VALID

9.	0,592	0,279	VALID
10.	0,576	0,279	VALID
11.	0,506	0,279	VALID
12.	0,449	0,279	VALID

Source: Data processed by the author

Based on Table 9, the self-efficacy variable (X2) in this study has a *Cronbach's Alpha* value of 0.873, which reflects an excellent level of reliability. Based on the table above, this value exceeds the threshold of 0.60, so this variable is considered reliable. Thus, it can be concluded that the instrument used to measure the self-efficacy variable (X2) in this study has a high level of consistency and confidence.

Table 9. Results of the Reability Test of the Self-Efficacy Variable Questionnaire

Reliability Statistics	
Cronbach's Alpha	N of Items
0,873	12

Source: Data processed by the author

Normality Test

Based on the results of the *One-Sample Kolnmogorov-Smirnov* normality test calculation using SPSS 31 in Table 10, it can be stated that the data from the three variables are normally distributed. This is known based on the significance level of 0.200, which is greater than 0.05. If the significance value is > 0.05, the residual value is normally distributed.

Table 10. Normality Test

One-Sample Kolmogorov-Smirnov Test			
			Unstandardized Residual
N			52
Normal Parameters[a,b]	Mean		0,0000000
	Std. Deviation		2,29973033
Most Extreme Differences	Absolute		0,088
	Positive		0,075
	Negative		-0,088
Test Statistic			0,088
Asymp. Sig. (2-tailed)[c]			.200[d]
Monte Carlo Sig. (2-tailed)[e]	Sig.		0,392
	99% Confidence Interval	Lower Bound	0,379
		Upper Bound	0,405

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.
e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000.

Source: Data processed by the author

Linearity Test

Based on the results of the linearity test calculation in Table 11, it can be seen that the significance value in Linearity is <0.001 which is less than the significance level of 0.05. So it can be concluded that transformational leadership style (X1) with teacher innovation (Y) has a linear relationship.

Table 11. X1 linearity test with Y

			Sum of Squares	df	Mean Square	F	Sig.
Teacher Innovation * Transformational Leadership Style	Between Groups	(Combined)	436.809	18	24.267	3.049	.003
		Linearity	307.585	1	307.585	38.648	<,001
		Deviation from Linearity	129.223	17	7.601	.955	.525
	Within Groups		262.633	33	7.959		
	Total		699.442	51			

ANOVA Table (heading spanning top of table)

Source: Data processed by the author

Then, the results of the calculation of the linearity test of the self-efficacy variable (X2) with teacher innovation (Y) can be seen in Table 12. Based on the results of the linearity test calculation in Table 12, it can be seen that the significance value in Linearity is <0.001 which is less than the 0.05 significance level. So it can be concluded that self-efficacy (X2) with teacher innovation (Y) has a linear relationship.

Table 12. X2 linearity test with Y

			Sum of Squares	df	Mean Square	F	Sig.
Teacher Innovation * Self-efficacy	Between Groups	(Combined)	449.097	18	24.950	3.289	.001
		Linearity	237.909	1	237.909	31.361	<,001
		Deviation from Linearity	211.188	17	12.423	1.638	.110
	Within Groups		262.633	250.345	33	7.586	
	Total		699.442	699.442	51		

ANOVA Table (heading spanning top of table)

Source: Data processed by the author

Multicollinearity Test

Table 13 displays the results of the multicollinearity test for the independent variables, namely transformational leadership style (X1) and self-efficacy (X2) on the dependent variable of teacher innovation (Y). This test is based on the *tolerance* value and *Variance Inflation Factor* (VIF) as the main indicator. Transformational leadership style has a *tolerance* value of 0.925 and VIF 1.081, while self-efficacy has a *tolerance* value of 0.925 and VIF 1.081. Based on the multicollinearity test criteria, namely *Tolerance* value > 0.10 and VIF value < 10, all independent variables meet the requirements. Thus, it can be concluded that there is no multicollinearity among the independent variables in the study.

Table 13. Multicollinearity Test

Coefficients ᵃ

		Collinearity Statistics	
Model		Tolerance	VIF
1	Transformational Leadership Style	0,925	1,081
	Self-efficacy	0,925	1,081
a. Dependent Variable: Teacher Innovation			

Source: Data processed by the author

Heteroscedasticity Test

Based on Table 14 of the heteroscedasticity test results, the significance value for the transformational leadership style variable is 0.266 and self-efficacy is 0.055. >All significance values are 0.05, it can be concluded that this regression model is free from heteroscedasticity problems.

Table 14. Heteroscedasticity Test

Coefficientsᵃ

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	0,767	2,256		0,340	0,735		
	Transformational Leadership Style	-0,041	0,036	-0,160	-1,126	0,266	0,925	1,081
	Self-efficacy	0,073	0,035	0,298	2,100	0,055	0,925	1,081
a. Dependent Variable: Teacher Innovation								

Source: Data processed by the author

Multiple Regression Equation

Table 15. Multiple Regression Test

Coefficients ᵃ

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	16.402	4.089		4.011	.000
	X1	.388	.066	.544	5.903	.000
	X2	.296	.063	.434	4.710	.000

Source: Data processed by the author

Based on Table 15, the multiple regression equation can be obtained as follows:

$\hat{Y} = \alpha + b1X1 + b2X2$

$\hat{Y} = 16.401 + 0.388X_1 + 0.296X_2$

So it can be seen that the results of the multiple regression equation above, the constant value (α) is 16,401, meaning that if the transformational leadership style (X1) and self-efficacy (X2) have a value of 0, then teacher innovation (Y) is 16,401. The coefficient value (b1) of transformational leadership style (X1) is 0.388, meaning that if the transformational leadership style (X1) increases by 1 point, then teacher innovation (Y) will increase by 0.388 assuming the X2 coefficient value is constant. For the X1 coefficient value, it shows positive results, which means that there is a positive relationship between transformational leadership style (X1)

and teacher innovation (Y). So it can be concluded that the higher the transformational leadership style (X1), the higher the teacher innovation (Y). The coefficient value (b2) of self-efficacy (X2) is 0.296, meaning that if self-efficacy (X2) increases by 1 point, then teacher innovation (Y) will increase by 0.296 assuming the X1 coefficient value remains. For the X2 coefficient value, it shows positive results, which means that there is a positive relationship between self-efficacy (X2) and teacher innovation (Y). So it can be concluded that the higher the self-efficacy (X2), the higher the teacher innovation (Y).

Partial Test (t Test)

Based on Table 16, it can be seen that the t value of the transformational leadership style (X1) is 5.903 while the t table value can be found in the statistical table with a significance level of 5% or 0.05 df = n - k - 1 (n is the number of respondents and k is the number of independent variables) or df = 52 - 2 - 1 = 49, then the t table value is 2.940. It can be seen that t count 5.903> t table 2.940. Thus, it can be concluded that there is a significant influence between the transformational leadership style variable (X1) on the teacher innovation variable (Y). Then t count on the self-efficacy variable (X2) is known to be 4.710 while t table is 2.940 or t count 4.710> t table 2.940. Thus, it can be concluded that there is a significant influence between the self-efficacy variable (X2) on teacher innovation (Y).

Table 16. X variable t test on Y

	Coefficients [a]				
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	16,402	4,089		4,011	0,000
X1	0,388	0,066	0,544	5,903	0,000
X2	0,296	0,063	0,434	4,710	0,000
a. Dependent Variable: Y					
b. Predictors: (Constant), X2, X1					

Source: Data processed by the author

Simultaneous Significant Test (F Test)

Based on the ANOVA table, the significance value obtained is 0.001. Because this value is smaller than 0.05, it can be concluded that there is a significant relationship between the independent variable and the dependent variable. In addition, the calculated F value of 39.032 is greater than the F table of 3.187 at a significance level of 0.05 with a degree of freedom (df) of 1. Thus, the variables of transformational leadership style (X1) and self-efficacy (X2) have a significant influence on teacher innovation (Y).

Table 17. Simultaneous Test (F Test)

	ANOVA[a]					
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	429,716	2	214,858	39,032	<,001[b]
	Residual	269,727	49	5,505		
	Total	699,442	51			
a. Dependent Variable: Y						

Source: Data processed by the author

Test Coefficient of Determination (R^2)

Based on Table 18, it can be seen that the R Square (R^2)value is 0.614. If the R Square value is converted to percent form, which means that the percentage of the influence of transformational leadership style and self-efficacy on teacher innovation is 61.4% or the

variation in transformational leadership style and self-efficacy explains 61.4% of teacher innovation, the remaining 38.6% is influenced by other factors not examined.

Table 18. Coefficient of Determination

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.784[a]	0,614	0,599	2,346
a. Predictors: (Constant), X2, X1				

Source: Data processed by the author

Discussion

Effect of Transformational Leadership Style (X1) on Teacher Innovation (Y)

Based on the results of the analysis, it is known that the calculated t value is greater than the t table (5.903 > 2.940), with a regression coefficient of 0.388 and a significance value of t of 0.000, which is below the significance threshold of 0.05 (0.000 <0.05). This finding shows that the principal's leadership style (X1) has a positive and significant influence on teacher innovation (Y). Thus, the alternative hypothesis is accepted and the null hypothesis is rejected. This result strengthens the understanding that the principal's leadership style plays an important role in encouraging teachers to innovate. Effective leadership can motivate teachers to be more creative, open to change, and dare to try new approaches in learning, thus having a positive impact on improving the quality of education in schools.

This finding is consistent with the results of previous studies conducted by Pestaloz et al. (2019), F. Nurdin et. Al 92020), Ismail and Mydin (2019), Hutasuhut (2019), and Vermeulen et al (2022) which show that there is a positive and significant relationship between principal leadership and teacher innovation. These studies reveal that principals who are able to lead effectively can create an environment that supports creativity and renewal, so that teachers are encouraged to continue to innovate in the learning process.

The Effect of Self-Efficacy (X2) on Teacher Innovation (Y)

Based on the results of data analysis, it is known that the calculated t value is greater than the t table value (4.710 > 2.940), with a regression coefficient value of 0.296 and a significance level of 0.000 which is below the threshold of 0.05 (0.000 <0.05). This shows that self-efficacy (X2) has a positive and significant influence on the level of teacher innovation (Y). Therefore, the alternative hypothesis is accepted, while the null hypothesis is rejected. This finding emphasizes that teachers' belief in their own abilities plays an important role in encouraging innovation in learning activities. Teachers with high self-efficacy are generally more confident to apply new methods, have resilience in facing obstacles, and are encouraged to continue to improve their competence.

These results are in line with previous studies conducted by Ramadhan (2023), Tirmizi et al. (2020), and Adiebah (2020) which both show a positive and significant influence between self-efficacy and innovative behavior. These studies reveal that teachers with strong self-efficacy tend to be better able to recognize and optimize their potential and actively take the initiative in designing a creative learning process and according to the needs of students.

The Effect of Transformational Leadership Style (X1) and Self-Efficacy (X2) on Teacher Innovation (Y)

Based on the results of data analysis, it is found that the calculated F value is greater than the F table (39.032> 3.187), with a significance value of 0.001 which is below the significance limit of 0.05 (0.001 < 0.05). This finding shows that transformational leadership style (X1) and self-efficacy (X2) simultaneously have a positive and significant influence on teacher innovation (Y). That is, the better the application of transformational leadership style by the principal and the higher the level of self-efficacy of teachers, the level of teacher

innovation in learning also tends to increase. Thus, the alternative hypothesis is accepted and the null hypothesis is rejected.

These results indicate that the principal's role as a leader who is able to provide inspiration, individualized attention, and encourage teachers to think critically and creatively, indirectly creates an environment conducive to innovation. On the other hand, teachers who have high self-efficacy believe more in their ability to face challenges, so they are more willing to try new methods in learning. It is this combination of transformative leadership support and teacher confidence that drives innovation in educational practice.

This finding is also supported by a number of previous studies, such as those conducted by Pramono et al (2022), Sunardi et al. (2019), Zalinad and Mohd Matore (2021), Usmansyah and Thamrin Abdullah (2021) which show that both transformational leadership and self-efficacy have important contributions to innovative behavior. Overall, the results of this study confirm that teacher innovation does not only depend on individual internal factors, but is also influenced by the quality of leadership in the school environment.

CONCLUSION AND RECOMMENDATION

Based on the analysis of the effect of transformational leadership style and self-efficacy on teacher innovation at SMK Negeri 22 Jakarta, it was found that both individually and simultaneously, the two variables had a positive and significant effect. Principals with transformational leadership styles that inspire, provide support, encourage creativity, and serve as role models are able to create an environment that encourages teacher innovation. Meanwhile, teachers who have high self-efficacy tend to be more confident in adapting and innovating to create more effective learning. The combination of transformational leadership style as an external factor and self-efficacy as an internal factor is proven to be able to increase the level of teacher innovation, which ultimately contributes to improving the quality of education in schools.

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