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The relationship between innovative leadership and educator performance in early childhood education

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Abstract

Educators deal with complex difficulties daily due to economic realities. Educational leadership therefore needs to be more creative and innovative to be effective. This study aims to determine whether there is an influence of innovative leadership in improving the performance of educators in early childhood education institutions in Serang District. This research used quantitative data collection through a survey. The analysis utilized statistical software for the determination of the validity test method, simple linear regression test, coefficient of determination, reliability test, product moment correlation test, and hypothesis test. Based on the result, there is a positive and significant influence of the innovative leadership of the ECE principals towards the performance of ECE educators. For early childhood education institutions located in Serang, Banten, this research can be used as a reference material in considering the selection of school principals.

***Keywords*:** Early childhood education; educator; innovative; leadership; performance

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1. Introduction

Early Childhood Education (ECE) is a level of education before basic education (Olowe et al., 2019; Nutbrown 2023), which is conducted through formal, non-formal, and informal pathways. This stage offers a significant function in stimulating children's growth and development, early childhood is considered the golden age for developing various potentials in children (Lippard et al., 2018). With regards to the notion, necessary stimulation should be optimally performed through the provision of quality ECE services (OECD, 2010).

Although the Early Childhood Development institutions in Serang City are expanding quickly, they lack permits. 37 ECE institutions out of the 451 in the city of Serang lack permission. Meanwhile, 414 institutions have received new licenses, but just 32 ECEs have been authorized, with formal 15 institutions and non-formal 17 receiving accreditation. It turns out that according to the researchers' observations, ECE educator performance in Serang City has not gone as planned, based on their observations. The performance standards that must be reached by ECE education providers are not yet optimal in many ECE institutions that have not included educator performance in their management.

One of the programs being implemented by the government is the background of early childhood educators in Serang based on the effort of quality of education nationally. This effort is made to ensure that every educational institution works hard to provide interested parties with high-quality services (Mishra et al., 2020). The process of raising educational standards is integrated with that of raising the standard of available human resources (Manas, 2020; Owojori & Gbenga-Akanmu 2021). Many groups are still researching Indonesia's poor educational standards. Several initiatives have been made, particularly by the Ministry of Education and Culture, to enhance the quality of learning, including bettering the quality of teachers, distributing books and learning materials, creating curricula, and enhancing facilities and infrastructure (Knowles, 2019). Therefore, enhancing the quality of human resources is a necessity that must be carried out in the development process in a planned, directed, intense, effective, and efficient manner (Madani, 2019).

Quality schools are determined by the performance of professional educators (Alfionita et al., 2020). Educators should be able to provide creative and innovative learning plans to properly conduct effective classroom activities (Hejji, 2019; Peralbo-Uzquiano et al., 2020) that certainly require the intervention of school leaders as pioneers who outline the new learning concepts (Supriadi, 2021). The success of the school essentially marks the success of the principal as a leader (Anggraeni & Nurabadi, 2016). The leadership of principals presents an essential function to improve and maintain the quality of ECE units. The improvement of ECE's learning activities and service quality is influenced by the leadership system (Mathematica, 2021). Leaders seek to influence educators to execute what is considered important by the school principals (Pounder, 2006; Hastuti & Kristiawan, 2020). As a resource manager, a school principal possesses a great impact on the success of school leadership in improving the quality of ECE (Hernik, 2019; Ijah et al., 2021).

Leadership is the ability and power of a leader to influence the minds of other people in following his or her guidance (Goncalves, 2013), in addition to inspiring them to design a significant innovation (Yuniarsih, 2009). The leadership of a school principal greatly inspires the improvement of educators' abilities, achievements, and performance (Mulyasa, 2005; Ulya, 2019; Yourneli, 2019). Good leadership by school principals leadership will positively affect educators' performance (Burhanudin et al., 2020; Dong et al., 2023). Therefore, educators can perform their duties and develop their abilities in teaching and learning management, in an attempt to achieve the goals of education (Glickman, 1981). This, educator's performance is determined by knowledge, abilities, attitudes, work ethics, preferences, core values, beliefs, and leadership skills (Wibowo, 2007; Manning et al., 2019).

A leader is someone who should organize, navigate, and control the efforts to initiate social behavior through a certain position, power, or reputation (Kuo & Shih, 2015; Taucean et al., 2016). Although the term has a limited definition, a leader is considered someone who is strengthened through persuasive power, potential, and will of the followers (Robbins & Judge, 2015).

Leadership is a process in which a leader influences or sets an example for his followers to achieve organizational goals (Gardner, 1990). It is perceived as a series of actions using influence, authority, or power over one or more other people to achieve goals (Enceng & Aslichati, 2014). It is a dimension of competence that determines organizational performance or success (Sudarmanto, 2009). It signifies a process where a leader should issue orders and monitor the work of others to achieve the designated goals (Danim, 2010).

Innovative leadership can bring a significant change in educational institutions (Aminuddin, 2012). Teachers should have the flexibility to adapt to new conditions and the ability to create scenarios to develop their professionalism (AACTE & P21, 2013; Stoll & Temperley, 2009; Zulkifli, 2021). It will bring joy to educators and education staff in implementing their duties (Mulyasa, 2005; Haddad & Ashqar, 2020). Innovators should be able to innovate and ready to face risks of failure and loss (Jacques, 2020), as well as be able to overcome complex problems that require patience and courage in decision-making (Ruda, 2017). Therefore, leadership is one of the most important variables in creating an innovative product or service (Candra et al., 2020).

Previous research has been carried out closely with the topic being discussed but still has its characteristics. Research from Douglass (2019) talks about Leadership for Quality Early Childhood Education and Care. Kivunja (2015) about what Leadership Looks Like, What It Does, and How It Works in Early Childhood Education Contexts. Ali (2022) about Innovative Leadership Management in Early Children Education. Several previous studies have had their distinct advantages in preparing an effective leadership style in the early childhood environment. The group in the language is still related to leadership in the early childhood learning environment, which does not have a wide sample range. This might be one of the weaknesses in previous research, as well as in-depth discussion studies including the context of innovative leadership are rarely a concern. While the position of the current research still has synergy with previous research, the range of samples is wide, and the context of the discussion is more inclined to innovative leadership toward improving educational performance which is the latest in this study.

Zenger & Folkman (2017) described ten traits of an innovative leader which includes: 1) display excellent strategic vision (a leader should have a clear vision to reach the goals), 2) have a strong customer focus (this leadership trait is reflected in its high user focus), 3) create a climate of reciprocal trust (a leader should seek to build good relationships with employees and users), 4) Show unwavering adherence to doing what is good for the business and the consumer (leaders show dedication to the company and its users); 5) Believe in a culture that fosters upward communication (a leader should be open to ideas and innovation from employees and users), 6) able to be persuasive (a leader should engage and encourage employees to innovate), 7) excellent at setting stretch goals (leaders set goals to achieve), 8) emphasize speed (a leader should set the speed for update), 9) able to be candid in their communication (a leader should establish good communication with employees and users), and 10) inspire and motivate through action (a leader should provide motivation for employees and users). In addition, a leader is expected to be confident, action-oriented, collaborative, and attentive to every detail (Alharbi, 2021).

The performance also marks the implementation of work actions in a certain period, which is measured from the achievements (Sulfemi, 2020). Teachers are responsible for carrying out learning tasks, guiding their students to improve their academic performance (Supadi, 2019), and performing their

duties as professional educators (Thalib & Manda 2016). To sum up, the coverage of teachers' performance also includes the tasks given by the school.

1.1. Purpose of study

2. This study aims to determine the influence of innovative leadership in improving the performance of ECE educators in Serang District. The contribution of the study's findings is anticipated to act as a catalyst for improving the attitudes and behaviors of the community of educational institutions and fostering community innovations inside them. While being a catalyst in the community of educational institutions, being able to decide on a course of action and deal effectively with change are all examples of leadership abilities. **Methods and Materials**

2.1. Method

This research implemented a descriptive quantitative design through a questionnaire-based survey (Heong et al., 2011). Vidergor (2018) described quantitative research based on objective phenomena. The research was conducted in Serang District from August to September 2022. The population consisted of 4,786 educators of formal and non-formal ECE institutions in Serang District, ranging from kindergarten (TK), playgroup (KOBER), similar ECE units (SPS), and child care centers (TPA).

2.2. Participants

The population is 4786 people. The sample size calculation referred to the method developed by Isaac and Michael (Sugiyono, 2017; Ikhrom, 2020), with an error rate of 5%, so that this study could take 325 respondents who participated in the research as the samples. The samples were determined using the Proportional Random Sampling technique from 29 sub-districts based on the number of ECE educators in Serang. The sampling technique was carried out by cluster sampling, this was done to make it easier to capture sample members with a wide range. In addition, the sample chosen was ECE principals from various schools in Serang, Banten who have experience in leadership in ECE. As well as having the qualifications of knowledge in understanding the ECE learning environment.

2.3. Ethics

The consent of the participants was sought prior to the distribution of the questionnaire. All participants voluntarily participated.

2.4. Data collection tools

This study used a closed-ended questionnaire as a non-test instrument (Bellová et al., 2018), in which the researcher provided response choices for the respondents. The researchers used the Likert scale as a measurement in the questionnaire with five choices (Liu et al., 2019).

2.5. Data analysis

The analysis utilized SPSS for the determination of the validity test method, simple linear regression test, coefficient of determination, reliability test, product moment correlation test, and hypothesis test. Simple linear regression is used to calculate the coefficients b_0 and b_1 of a linear model that forecasts the value of a single dependent variable (y) versus a single independent variable (x) (Han, 2020):

$$y = b_0 + b_1x$$

The value of y at the point where the straight line crosses the Y-axis is designated as the intercept or b_0, and the slope of the line is designated as b_1).

This study used a non-test instrument which was previously validated using the Cronbach Alpha formula, this was done to determine the feasibility of a valid and reliable instrument to be tested. Cronbach's alpha coefficient is calculated as (Beyazit et al., 2020):

$$\alpha = \frac{k}{k-1}(1 - \frac{\sum_{i=1}^{k} \sigma_i^2}{\sigma_t^2})$$

where k is the scale's number of elements, σ_i^2 the difference between the it item, and σ_i^2 is the difference in the scale (total) scores.

3. Results

The analysis aimed to describe the data and propose hypotheses using simple linear regression statistics. To examine the impact of the X variable, innovative leadership, on the Y variable, simple regression analysis was used, namely the performance of educators in ECE institutions across the Serang District (Alzubaidi et al., 2016; Lauritzen, 2012).

Table 1

Summary Model on Innovative Leadership

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.755[a]	.571	.569	7.461

a. Predictors: (Constant), Innovative Leadership

Based on the result in table 1, the correlation value/relationship (R) = 0.755, with the coefficient of determination (R Square) = 0.571, indicating that the dependent variable (Innovative Leadership) is influenced by the independent variable (Educator Performance) = 57.1%.

Table 2

ANOVA on Innovative Leadership

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23887.061	1	23887.061	429.088	.000[b]
	Residual	17981.228	323	55.669		
	Total	41868.289	324			

a. Dependent Variable: Educator Performance

b. Predictors: (Constant), Innovative Leadership

As seen in table 2, the value of F_{count} = 429.088 with a significance level of 0.000 <0.05, so the regression model can be used to predict the variable of educator performance, implying a correlation of innovative leadership (X) towards educator performance (Y).

Table 3

Coefficients[a] of Educator Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.022	2.937		3.412	.001
	Innovative leadership	.925	.045	.755	20.714	.000

a. Dependent Variable: Educator Performance

The constant value (a) = 10,022, while the regression coefficient of innovative leadership value (b) = 0.925, with the regression equation Y = a + bx or Y = 10.022 + 0.925x. From this equation, a constant of 10.022 implies the consistent value of the educator performance = 10.022. The regression coefficient X = 0.925 states that for every 1% addition of the value of innovative leadership, the value of educator performance increases by 0.922. The positive regression coefficient marks a positive direction of the influence between variables X and Y (Jin et al., 2019).

The Coefficients table marks a significance value of 0.000 <0.05, concluding that innovative leadership (X) influences educator performance (Y). Based on the t-value, t_{count} = 20.714 > t_{table} 7.739, implying that the innovative leadership (X) influences the educator performance (Y).

4. Discussion

The principal as a manager and leader holds a strategic position for innovators because innovators should have the power to progress their innovative missions. This is Havelock's point of view stating that the success of change is influenced by the strength of the leader as the agent of change. As a leader, the ECE principal manages all school components that can determine the success or failure of school education and learning. While the position of the current research still has synergy with previous research, the range of samples is wide, and the context of the discussion is more inclined to innovative leadership toward improving educational performance which is the latest in this study.

This study shows that innovative leadership influences the performance of ECE educators. ECE principals should devote leadership competencies and apply all ideas to reach the goals of the educational process set by the Education Unit. To manifest the ideal, learning management might appear as a challenge that insists ECE principals make changes and innovations based on the current conditions. The principals should be able to motivate teachers to enhance their performance and responsibility to achieve the school goals. A harmonious relationship must be promoted among teachers, as part of development attempts. Principals should build quality assurance for every teacher in performing their duties to give the sense of working properly, processing and producing superior quality, and improving the quality of education in schools. For this reason, there should be a leadership pattern that can provide a sense of comfort and security to conductively perform school responsibilities that will improve the attitudes, actions, and behavior of members of the school organization (principals, teachers, and employees). This attitude will foster teachers' morale in the learning process at school. The optimum teacher's performance will boost the quality of education in schools.

The focus of the notion of creative leadership is on the leadership function that ECE principals have in encouraging teachers' creativity to advance students' creative ideas (Jensen et al., 2023). Stoll and Temperley (2009) suggested that imaginative primary school administrators may foster and sustain teachers' creativity by 1) fostering creative thinking, 2) enhancing collaborative thinking and design, and 3) giving teachers more time and space to foster creative practicality. White (2016), Tamblyn et al., (2023), and Pfister and Robinson (2010) A team of diverse talents should be established, time should be allowed for people to express their thoughts and feelings, the most creative personal space should be provided, and a culture and environment that fosters creativity should be fostered, among other things. Also suggested were several roles of creative leaders to maximize the creative contribution of their colleagues to the organization. These roles included: 1) recognizing and developing different creative individuals, 2) involving and motivating creative work, and 3) establishing a team of diverse talents. Based on the theories, researchers emphasize the importance of creative leadership Olofsson et al. (2015), Pulis (2018), Taucean et al. (2016), which touches on three different areas: personal, group, and cultural. The responsibilities of creative leadership include fostering every teacher's capacity for creativity, developing and fostering dynamic creativity, and fostering an innovative culture within the school.

Leaders focus on tasks (organization, standard setting, means of achievement). This notion touches on the extent to which leaders focus on activities (task orientation), in addition to facilitating a workplace environment, emotional support, warmth, and trust (interpersonal orientation). Innovative leadership challenges problems that impede learning at all levels and responds creatively to opportunities. To increase engagement for all kids, it is important to think, act, and see things in new ways (Salvas et al., 2022). Additionally, creative leaders provide the circumstances, surroundings, and opportunities for creativity. Creative leadership involves more than just resolving issues but also involves problem finding or identification to actively scan the prevailing challenges in the environment (Goncalves, 2013) that may appear as obstacles against school improvement in preparing students' readiness for the future.

Innovative leadership requires putting out a novel technique, solution, methodology, or idea to satisfy people's demands and offer solutions to both current and future concerns. Innovation leadership is a concept and technique that incorporates several leadership philosophies to promote and drive employees to produce innovative products, services, and ideas. The creative leader is crucial in the application of innovation leadership. Innovative leadership is said to aid in the accomplishment of a group's or organization's vision and aim when it comes to organizational growth. A multitude of traits are possessed by innovative leaders, including the leadership skills, aptitude, morals, and knowledge to recognize any current threats and foresee any unfavorable outcomes in the future. Innovative leaders are dedicated to enhancing the social, political, and economic prosperity of their people. To thrive and remain competitive in the face of evolving procedures and technology, the company must use innovative thinking (Horth & Buchner, 2014).

The type of leadership that tends to be used from the results of this study fosters creative thinking and encourages lateral ideas to establish culture and structure, including resources that can improve the abilities to think outside the box, flexibly express new ideas, challenge reasonable risks, encourage people to become learners and boost others' creativity. The contribution of the results of this study to future research can be a catalyst for changing attitudes and behavior in educational institutions for the better and building community innovation in educational institutions. In addition, the innovative leadership style can be reviewed based on the characteristics of the attitude and behavior of the leader.

Wilson (2016) claimed that only innovative school leaders could help teachers build their creative skills so they could better support kids' independent invention as part of their ability development. Stoll and Temperley (2009) conducted a study with primary school leaders to examine and strengthen their creative leadership in establishing environments, cultures, and structures, concluding that the creativity of successful teachers. Primary school administrators' innovative leadership will support teachers' innovation in fostering students' creativity throughout the learning process (Cousins et al., 2012). Zhang (2010) Added that creative leadership is really about collaborating with diverse teachers to increase students' skills and capacities and capturing, enhancing, and supporting the activities (Greenhow et al., 2009). In addition, Sloan et al. (2006) claimed that a creative principal might encourage innovation and creativity in any educational setting. To unleash instructors' creativity and encourage children's creativity while learning, primary school principals need to demonstrate creative leadership.

5. Conclusion

Based on the findings and discussion, the influence of the ECE principals' innovative leadership in improving the ECE educators' performance shows a simple linear regression equation $Y = a + bx$; $Y = 10.022$ and $X = 0.922$, signifying a positive value of b-coefficient. It implies the change in Y that goes linear with X, in which Y will increase if X increases. With the provision of the correlation coefficient value = 0.755, there is a strong correlation between the X and Y variables. The calculation of the coefficient of determination results in 57.1%, while the remaining 42.9% is influenced by other factors. The results of

the hypothesis testing generate $t_{count} > t_{table}$ (20.714 > 7.739), so H_0 is rejected and H_a is accepted. Based on the result, there is a positive and significant influence of the innovative leadership of the ECE principals on the performance of ECE educators in Serang District.

The leadership of the ECE school principal in this study presents a soul that can encourage the level of educational performance to be able to adapt to new developments and knowledge. The synergy between leadership that can think creatively, consider a decision, and solve problems by deliberation and consensus is justice in helping improve educational performance in the ECE environment. An innovative leadership style with creative thinking can be an alternative to facing the challenges of 21st-century education. In addition, the importance of the way of thinking and behavior of an innovative leader such as being slow and not rushing in making a decision. This can have an impact on improving the performance of education in an organizational environment.

6. Recommendations

Leadership is the main capital in management in an organizational environment, especially those devoted to early childhood education institutions. As a result, the way a school principal leads will have an impact on educational performance. This study recommends several important things to do. For early childhood education institutions located in Serang, Banten, this research can be used as a reference material in considering the selection of school principals. Next, teachers as educators through the results of this study can feel that performance is a task that requires direct supervision from the head of the school principal. In addition, the principal provides opportunities for teachers to continue to improve creative thinking in developing themselves. Future research can better develop and continue the results of this research, by reviewing what factors make a successful leader an innovative, as well as performance that is specific to the needs of the 21st century in the early childhood education environment.

Seeing the difference between the current research position and previous research, the wider sample range and the interestingness of innovative leadership were found to lead to creative thinking and problem-solving principles. Whereas previous research only examined the relationship and influence of innovative leadership without discussing its characteristics in more detail. Therefore, to sharpen the results of this study, various variables can be added that can influence the needs of early childhood education in the future.

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