

The effect of managerial competence on entrepreneurship leadership of elementary school principals: A case study in Serang City, Indonesia



Syafrudin Syafrudin, Sudadio Sudadio, Sholeh Hidayat *

Doctoral Program in Education, Graduate School, Universitas Sultan Ageng Tirtayasa, Serang, Indonesia

ARTICLE INFO

Article history:

Received 19 December 2022

Received in revised form

5 April 2023

Accepted 7 April 2023

Keywords:

Entrepreneurial leadership competence

Managerial competence

Elementary school

Principal

ABSTRACT

This study aimed to examine and describe the impact of school principals' managerial competence on the entrepreneurial leadership of elementary school principals in Serang City, Banten Province, Indonesia. The research was conducted in elementary schools located in Serang City, Banten Province, Indonesia, specifically in six sub-districts: Cipocok Jaya District, Curug District, Kasemen District, Taktakan District, Walantaka District, and Serang District. The study employed a quantitative method utilizing ex-post-facto survey research techniques. This research methodology was selected based on the identified issues and objectives, which aimed to analyze the influence of principals' managerial competence on the productivity of elementary schools in Serang City, Banten Province, Indonesia. Furthermore, the data collection process did not require any deliberate treatment, as the necessary data were readily available in the field and possessed by the respondents. Therefore, the collection of this data only necessitated the use of a questionnaire as the primary instrument. Upon completion of the research, it was observed that there exists a direct positive relationship between managerial competence and entrepreneurial leadership among school principals in the context of elementary schools in Serang City, Banten Province, Indonesia. This finding suggests that an increasingly competent managerial approach will have a favorable impact on the entrepreneurial leadership of school principals within the scope of elementary schools in Serang City, Banten Province, Indonesia.

© 2023 The Authors. Published by IASE. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Education stands as a fundamental pillar in the enhancement of human resources quality. Within this context, education personnel, particularly teachers, assume a vital role that cannot be disregarded. Therefore, it becomes imperative to consistently implement diverse policies aimed at developing and enhancing the quality of teachers' performance. In accordance with Law Number 20 of 2003 concerning the National Education System, education is defined as a deliberate and structured endeavor to establish a conducive learning environment and process, fostering active development of students' potential in terms of religious and spiritual fortitude, self-discipline, personality, intelligence, noble character, as well as

the skills necessary for themselves, the community, and the nation (ROI, 2003).

Several factors are involved in producing quality schools, and one of the most decisive roles is the school principal. The position of principal in the implementation of education in schools is a central figure who is responsible for the smooth running of the educational process in schools. Human resources, finance, facilities, infrastructure, and information will not be able to play an optimal role in achieving school goals without being adequately managed by the school principal.

Formal education in Indonesia is divided into primary, secondary, and higher education. Each level of education influences one another. Primary education will significantly affect and determine a child's success in pursuing education at the secondary and tertiary levels because secondary education and higher education are a continuation of primary education (Sari and El Islami, 2022). Primary education is the starting point that will significantly determine a child's success. Through primary education, a child will acquire basic skills related to critical thinking, reading, writing, and

* Corresponding Author.

Email Address: sholeh.hidayat@untirta.ac.id (S. Hidayat)

<https://doi.org/10.21833/ijaas.2023.06.008>

Corresponding author's ORCID profile:

<https://orcid.org/0000-0002-2291-9689>

2313-626X/© 2023 The Authors. Published by IASE.

This is an open access article under the CC BY-NC-ND license

(<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

arithmetic, as well as character building (Phan et al., 2022). In the education field, many efforts were conducted to improve the quality of education in Indonesia. Salsa et al. (2022) addressed the learning motivation and learning achievement through distance learning, Haryadi and Pujiastuti (2022) addressed the HOTs through STEM-PjBL, Pebriani et al. (2022) addressed scientific literacy through the STREAM-based teaching materials using smart apps creator 3, Azzahra and Simatupang (2021) addressed the critical thinking skills thorough talking stick method, Mukhtar et al. (2021) addressed the problem solving and self-efficacy through dynamic mathematic software Geogebra, Widyastuti et al. (2022) addressed the learning outcomes through discovery learning model, Uma et al. (2022) addressed the learning outcomes thorough andriod-based learning.

Local government, as an extension of the central government, must also be able to assist the central government in realizing the lofty ideals of guaranteeing the rights of every citizen in the aspect of education (Gray and Jenkins, 2014), including the government of Serang City in Banten Province. According to data published by the Ministry of Education and Culture Reference Data, the City of Serang has 529 public and private schools from elementary to high school across six districts. There are Cipocok Jaya District, Curug District, Kasemen District, Takakan District, Walantaka District, and District of Serang. The source also provided information that out of 529 schools in Serang City, 280 were elementary schools, with details as shown in Table 1.

Table 1: Number of elementary school data in Serang City

No.	District	Public School	Private School	Total
1.	Cipocok Jaya	28	12	40
2.	Curug	21	5	26
3.	Kasemen	39	2	41
4.	Taktakan	34	7	41
5.	Walantaka	29	13	42
6.	Serang	72	18	90
	Total	223	57	280

In the context of a school, the one who acts as a manager is the principal. The principal must have professional skills in fostering the running of the school organization because the school principal's leadership strongly influences the success of a school in improving student learning achievement (McGuigan and Hoy, 2006). The school principal is responsible for organizing educational activities, school administration, developing other educational staff, and utilizing and maintaining facilities and infrastructure. This becomes more important in line with the increasingly complex demands of the school principal's duties, which require more effective and efficient performance support (Balyer et al., 2015).

The managerial competency of a school principal is related to carrying out management functions as a whole to achieve optimal educational goals (Arhipova et al., 2018). The school principal is able to plan and develop school organizations according

to needs, lead teachers and staff, manage facilities and infrastructure, manage school relations with the community to seek support for ideas, learning resources, and school financing, and be able to manage students, school information systems and decision-making (Bhardwaj and Punia, 2013).

As a leader within the scope of the school, the principal must have a positive attitude which includes exemplary, be able to foster creativity, motivate, and develop a sense of responsibility towards the school and self-awareness (Schussler et al., 2010; Ilies et al., 2005). The principal has to try to achieve the school's mission, vision, and goals, be consistent in words and actions, provide encouragement and improve staff morale, and be open and willing to accept criticism. The principal also has to be able to make decisions quickly and accurately, able to praise those who are successful and penalize those who are wrong and can foster a sense of familiarity and kinship among members who are led (Mulyasa, 2005).

Principal leadership must avoid creating a relationship pattern with teachers that only relies on power (Beatty and Brew, 2004; Tschannen-Moran, 2009). Instead, it needs to prioritize functional cooperation by avoiding self-one man shows. Instead, it must emphasize teamwork cooperation, avoiding creating a scary work atmosphere. On the contrary, it is necessary to create conditions that make all teachers self-confident, to avoid rhetorical discourse, to prove that they have professional performance skills, to avoid envy and hatred, to develop an enthusiasm for the work of teachers, to avoid blaming teachers (Tschannen-Moran, 2009). Still, it must be able to correct (correct) teacher mistakes and not make the teacher's work boring.

One form of leadership that a school principal needs to have is entrepreneurial leadership. Entrepreneurship is defined as the attitude and behavior of people who are innovative, risk-taking, anticipatory, initiative, and profit-oriented (Chanda and Unel, 2021). Innovative refers to developing unique products, services, or processes. This includes conscious efforts to create specific goals, focusing changes on socio-economic potential based on individual creativity and intuition. Remember those creative and intuitive people like a work environment that provides high independence and autonomy. The entrepreneurial spirit is also related to risk-taking, which refers to an active will to pursue opportunities. Risks need to be taken into account, and entrepreneurs must objectively identify risk factors and available resources and systematically manage these factors (Bergner et al., 2021).

A manager must understand his/her position where he/she is; in other words, a leader must understand the responsibilities of him, including a school principal (Gentilucci and Muto, 2007). Wahjosumidjo (2013) stated that the principal or manager is a planner, organizer, leader, and controller who carries out management functions. In this regard, Trianto (2011) said that the ability of

school principals to carry out managerial supervision, namely to assess and foster teaching and educational staff in schools, enhances the quality of school management and administration.

School principals are educational leaders at the education unit level who must be responsible for the progress and decline of the school they lead. Therefore, school principals are required to have various abilities, both related to management and leadership issues, to be able to advance their schools effectively, efficiently, independently, productively, and accountably. This condition demands a variety of tasks that education staff must carry out following their respective roles and functions, starting from the macro level to the micro level, namely school-level education staff (Reid, 2021).

The managerial competence of school principals can be seen from their ability to prepare school plans for various levels of planning and manage school change and development toward an effective learning organization. He/she creates a culture and school climate that is conducive and innovative for student learning in the context of accepting new students. He/she also has to manage staff educators and education, manage students and develop curriculum and learning activities following the direction and objectives of national education, monitor, evaluate, and report on the implementation of school activity programs with appropriate procedures, and plan follow-up actions (Campos, 2021; Azainil et al., 2021).

Management carried out by a school principal through his/her role as a manager is intended to advance his/her school effectively, efficiently, independently, productively, and with accountability. Managerial competence possessed by a leader can be shown through his/her entrepreneurial leadership. According to Esiri (2002), entrepreneurial leadership can be interpreted as the ability to lead innovatively, be fully involved in work, and see opportunities and take advantage of them according to their own ways and methods. By paying attention to the characteristics of managerial competence, it can be seen that a principal who has good managerial competence will be able to take a bold stance to carry out the proper functions, build a good team, dare to take risks, have an open mind, have communication skills and adequate negotiation, and have good confidence. This is, of course, in line with the characteristics of someone who has entrepreneurial leadership within him. So, by paying attention to this, managerial competence influences the entrepreneurial leadership of elementary school principals in Serang City, Banten Province, Indonesia.

2. Method

Based on the limitation of the problem, as stated in the previous section, this study aims to analyze and describe the influence of managerial competence on the entrepreneurial leadership of elementary

school principals in Serang City, Indonesia. This research was conducted in elementary schools in Serang City, Banten Province using a case study, which is spread over six sub-districts, namely Cipocok Jaya District, Curug District, Kasemen District, Taktakan District, Walantaka District, and Serang District.

The population of this study consisted of the subject population, which included the target population, namely all elementary school principals in Banten Province, Indonesia, and the reachable population, namely elementary school principals in Serang City, Banten Province, Indonesia. In comparison, the population attributes in this study are all managerial competencies and entrepreneurial leadership of all elementary school principals in Serang City, Banten Province, and the productivity of elementary schools in Serang City, Banten Province, Indonesia.

Thus, the reachable population in this study is all elementary school principals in Serang City, Banten Province, with the following details in Table 1. Because the population in the study was not possible to reach as a whole, we used a research sample whose number was determined using the Slovin formulation (Ryan, 2013) as presented below:

$$n = \frac{N}{1 + N(e)^2}$$

where, n is the minimum number of samples. N is the number of the population. E is significance level (5%=0.05).

Following the Slovin formulation, the calculation of the minimum number of samples used in this study is presented as follows:

$$n = \frac{N}{1 + N(e)^2} = 164,71 \approx 165$$

Thus the minimum number of samples used in this study was 165 principals of elementary schools in Serang City, Banten Province, Indonesia. As an anticipatory measure to avoid failing to achieve the minimum sample size due to questionnaires that were not returned or incomplete questionnaires, the researchers decided to use 170 elementary school principals in Serang City, Banten Province, Indonesia.

Considering the characteristics of the population in this study which consists of several groups and areas that are not proportional (balanced), the sampling technique used in this study is a probability sampling technique with the disproportionate cluster random sampling method (Etikan and Bala, 2017). So by using this sampling technique, the sample distribution is obtained as presented in Table 2.

Based on the calculations in Table 2, the number of elementary school principals used in Cipocok Jaya District is 23 people, Curug District is 16 people, Kasemen District is 25 people, Takakan District is 25

people, Walantaka District is 26 people, Serang District is 55 people. Furthermore, from the results of these calculations, calculations are then carried out to determine the distribution of public and private schools in each sub-district, as shown in Table 3.

Table 2: Distribution of research samples by district

No.	District	Population	Sample
1.	Cipocok Jaya	40	23
2.	Curug	26	16
3.	Kasemen	41	25
4.	Taktakan	41	25
5.	Walantaka	42	26
6.	Serang	90	55
	Total	280	170

Table 3: Distribution of research samples based on the type of school in each district

No.	District	Population		Sample	
		Public school	Private school	Public school	Private school
1.	Cipocok Jaya	28	12	16	7
2.	Curug	21	5	13	3
3.	Kasemen	39	2	24	1
4.	Taktakan	34	7	21	4
5.	Walantaka	29	13	18	8
6.	Serang	72	18	44	11
	Total	223	57	136	34

Based on the calculations in Table 3, the number of principals of public elementary schools used in the Cipocok Jaya District is 16 people. At the same time, there are seven private elementary school principals, 13 public elementary school principals, and three private elementary school principals in Curug District, 24 principals of Public elementary schools and one private elementary school principal in Kasemen District, 21 public elementary school principals and four private elementary school principals in Takakan District, 18 public elementary school principals and eight private elementary school principals in Walantaka District, and 44 principals of public elementary schools and 11 principals of private elementary schools in Serang District.

This research used a quantitative method using ex post facto survey research methods (Basler, 2012). This research method was chosen by considering the problems, and this research aims to analyze the influence of managerial competence, entrepreneurial leadership, and interpersonal intelligence of school principals on the productivity of elementary schools in Serang City. In addition, the research data collected did not have to go through treatment that researchers deliberately carried out, but the data collected was already available in the field and owned by the respondents, so they only needed instruments in the form of a questionnaire to collect these data.

3. Results and discussion

a. Descriptive results: The data in this study were obtained based on the results of filling out a questionnaire by 170 respondents who were the research sample. The data is analyzed using

descriptive statistics, namely those only concerned with the collection, processing, analysis, and presentation of some or all of the data (observation) without drawing any conclusions. Data description includes the average score, median, mode, standard deviation, variance, and data distribution in the frequency distribution table and histogram of each research variable, namely managerial competence (X1) and entrepreneurial leadership (X2).

b. Managerial Competence: Managerial competence variable data were obtained based on filling out a questionnaire consisting of 33 statement items with a theoretical score ranging from 33 to 165. Based on the results of data analysis, it is known that the minimum score is 102; the maximum score of 165; the score range of 63 (empirical score); the average score is 138.447; the median is 133; the mode is 132; the standard deviation 15.556; and variance 241.988. The frequency distribution of managerial competency scores according to 170 respondents is shown in Table 4.

Table 4: Frequency distribution of managerial competency scores

No	Interval class	Frequency	
		Absolute	Relative (%)
1	102 - 109	4	2.35
2	110 - 117	12	7.06
3	118 - 125	13	7.65
4	126 - 133	59	34.70
5	134 - 141	27	15.88
6	142 - 149	11	6.47
7	150 - 157	13	7.65
8	158 - 165	31	18.24
	Total	170	100

Based on the data presented in Table 4, it can be described the distribution of managerial competence scores in the form of a histogram shown in Fig. 1.

c. Entrepreneurial leadership: Entrepreneurial leadership variable data were obtained based on filling out a questionnaire consisting of 30 statement items with a theoretical score ranging from 30 to 150. Based on the results of data analysis, it is known that the minimum score is 101; the maximum score of 150; the score range is 49 (empirical score); the average score is 127.841; the median is 123; the mode is 120; standard deviation 12.622; and variance 159.318. The frequency distribution of entrepreneurial leadership scores according to 170 respondents is shown in Table 5.

Table 5: Frequency distribution of entrepreneurial leadership scores

No	Interval class	Frequency	
		Absolute	Relative (%)
1	101 - 107	5	2.94
2	108 - 114	9	5.29
3	115 - 121	62	36.47
4	122 - 128	28	16.47
5	129 - 135	18	10.59
6	136 - 142	13	7.65
7	143 - 149	24	14.12
8	150 - 156	11	6.47
	Total	170	100

Based on the data presented in Table 5, it can be illustrated that the spread of entrepreneurial

leadership scores in the form of a histogram is shown in Fig. 2.

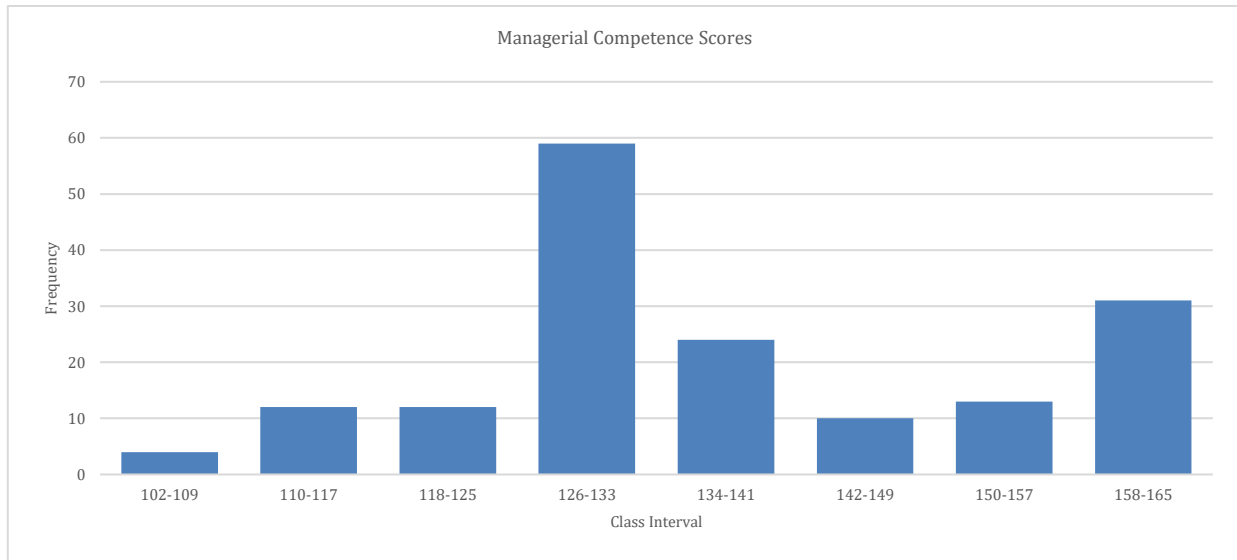


Fig. 1: Managerial competency score histogram

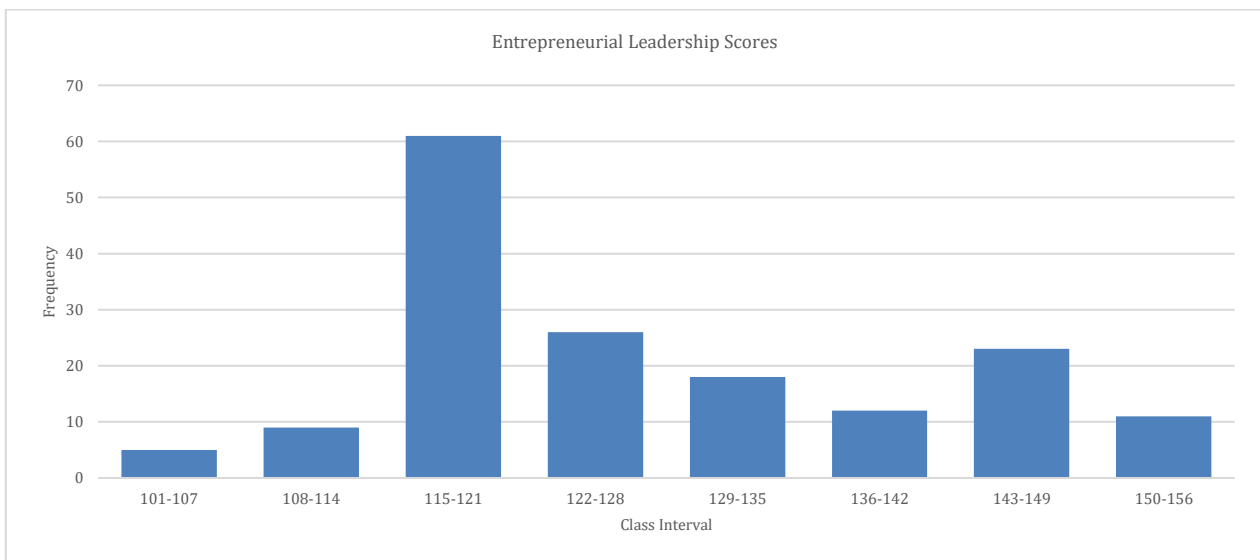


Fig. 2: Entrepreneurial leadership score histogram

d. Research hypothesis test results: Data analysis was performed to test the research hypotheses using path analysis techniques (Fitriana et al., 2022). To test the hypothesis, prerequisite testing is carried out, which includes the normality test for estimated errors, linearity and significance

tests, and multicollinearity tests (Alita et al., 2021). After all the prerequisite tests are met, the analysis is continued by testing the research hypothesis (Syahfitri and Herlina, 2022). The results of prerequisite testing and hypothesis testing are presented in Table 6.

Table 6: Estimation error normality test results

No.	Estimate error	Probability of significance	Critical value $\alpha = 5\%$	Test result
1.	X ₂ to X ₁	0.056	0.05	The data is normally distributed

Table 6 shows that the normality test for each pair of variables in the regression equation testing the normality error of the estimated regression of entrepreneurial leadership (X2) on managerial competence (X1) produces a significance probability value of 0.056. The value is more than $\alpha=5\%=0.05$, namely $0.056 > 0.05$, which means that the error of the regression estimate is normally distributed.

1. Entrepreneurial leadership (X2) to managerial competence (X1): Based on the analysis results, the regression equation shows the relationship between managerial competence (X1) and entrepreneurial leadership (X2), namely $X_2=44.067+0.605X_1$. The results of linearity testing and regression significance are presented in Table 7.

Table 7: ANOVA for linearity and significance tests regression equation $X_2=44.067+0.605X_1$

Regression linearity			Regression significance		
F-count	Probability of significance	Test result	F-count	Probability of significance	Test result
1,426	0.063	Linear	210.494	0.000	Significance

Based on Table 7, the results of the regression linearity test obtained a Fcount of 1.426 and a significance probability value of 0.063. Thus for $\alpha=0.05$. It can be seen that the significance probability value is more than $\alpha=0.05$, namely $0.063 > 0.05$, which indicates that the relationship between entrepreneurial leadership (X2) and managerial competence (X1) is linear. Likewise, the regression significance test results obtained a Fcount of 210.494 and a significance probability value of 0.000. Thus for $\alpha=0.05$. It can be seen that the significant probability value is less than $\alpha=0.05$, namely $0.000 < 0.05$, which indicates that the regression of entrepreneurial leadership (X2) on managerial competence (X1) is significant.

2. Hypothesis testing of the effect of entrepreneurial leadership on interpersonal intelligence of elementary school principals in Serang City: The statistical hypothesis put forward to explain the effect of the managerial competence variable (X1) on entrepreneurial leadership (X2) can be stated as follows:

$$H_0 : \gamma_{21} \leq 0$$

$$H_1 : \gamma_{21} > 0$$

Based on the results of the tests, the correlation of managerial competence (X1) to entrepreneurial leadership (X2) is 0.746, with a significant result with a t-count value of 14.508. So, for $\alpha=5\%=0.05$, the t-table value (t (0.05; 166)) is 1.974. Thus it can be seen that the t-count value > t-table value is $14.508 > 1.974$, resulting in H0 being rejected and H1 being accepted. Based on the results of these tests, it can be concluded that there is a significant influence of managerial competence (X1) on entrepreneurial leadership (X2) in the scope of Elementary Schools in Serang City, Banten Province, Indonesia.

Because the coefficient of influence of managerial competence (X1) on entrepreneurial leadership (X2) is positive, managerial competence has a positive effect on entrepreneurial leadership. These results mean that the better the managerial competence of the principal, the better his/her entrepreneurial leadership will be. And vice versa, the lower the managerial competence possessed by a school principal, the more entrepreneurial leadership he/she has will also decrease.

The sixth finding in this study indicates that there is a positive direct effect of managerial competence (X1) on entrepreneurial leadership (X2). This means that the variance of the entrepreneurial leadership of school principals in the scope of Elementary Schools (SD) in Serang City, Banten Province, Indonesia can be explained by the variance of managerial competence possessed. The contribution of managerial competence to entrepreneurial

leadership is 55.65%, which means that the variance of entrepreneurial leadership can be influenced by managerial competence. The better the managerial competency of the principal in managing an Elementary School (SD), the more entrepreneurial leadership the school principal will have.

Wahjosumidjo (2013) and Everard et al. (2004) said that the principal or manager is a planner, organizer, leader, and controller who carries out management functions. Concerning what has been stated previously, Trianto (2011) and Sandholtz and Scribner (2006) said that the ability of school principals to carry out managerial oversight, namely assessing and fostering teaching and educational staff in schools, enhances the quality of school management and administration.

The managerial competence of school principals can be seen from their ability to prepare school plans for various levels of planning, manage school change and development towards an effective learning organization, create a culture and school climate that is conducive and innovative for student learning in the context of accepting new students, managing staff educators and education, managing students and developing curriculum and learning activities following the direction and objectives of national education, monitoring, evaluating, and reporting on the implementation of school activity programs with appropriate procedures and planning follow-up actions (Victor, 2017; Esp, 2013; Taun et al., 2022).

This study's results indicate a positive direct effect of managerial competence on entrepreneurial leadership. This is in line with the opinion put forward by Esiri (2002) that a school principal who has good managerial competence will be able to take a bold stance to carry out the proper functions, build a good team, dare to take risks and have an open mind, have adequate communication and negotiation skills, and have good self-confidence. This is, of course, in line with the characteristics of someone who has entrepreneurial leadership within him.

4. Conclusion

Drawing from the findings and discussion presented in the preceding chapter, it is evident that managerial competence yields a positive and direct influence on the entrepreneurial leadership displayed by school principals within elementary schools in Serang City, Banten Province, Indonesia. This observation underscores that an increasingly proficient managerial competence will have a favorable impact on the entrepreneurial leadership exhibited by school principals operating within the realm of elementary schools in Serang City, Banten Province, Indonesia.

Building upon the aforementioned conclusions, the implications derived from this study affirm that managerial competence engenders a positive and direct influence on the entrepreneurial leadership demonstrated by school principals in the context of elementary schools situated in Serang City, Banten Province, Indonesia. Consequently, by consistently striving to enhance their managerial competence, elementary school principals in Serang City, Banten Province, Indonesia can effectively bolster their entrepreneurial leadership skills. This state of affairs will facilitate the identification of necessary factors essential for fostering the development and enhancement of school quality.

Compliance with ethical standards

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

- Alita D, Putra AD, and Darwis D (2021). Analysis of classic assumption test and multiple linear regression coefficient test for employee structural office recommendation. *Indonesian Journal of Computing and Cybernetics Systems*, 15(3): 295-306. <https://doi.org/10.22146/ijccs.65586>
- Ahipova O, Kokina I, and Rauckienė-Michaelsson A (2018). School principal's management competences for successful school development. *Tiltai: Socialiniai Mokslai*, 79(1): 63-75. <https://doi.org/10.15181/tbb.v78i1.1757>
- Azainil A, Komariyah L, and Yan Y (2021). The effect of principals' managerial competence and teacher discipline on teacher productivity. *Cypriot Journal of Educational Sciences*, 16(2): 563-579. <https://doi.org/10.18844/cjes.v16i2.5634>
- Azzahra SF and Simatupang NI (2021). Implementation of talking stick method on acid-base concepts to improve students' critical thinking skills. *International Journal of STEM Education for Sustainability*, 1(1): 53-59. <https://doi.org/10.53889/ijses.v1i1.8>
- Balyer A, Karatas H, and Alci B (2015). School principals' roles in establishing collaborative professional learning communities at schools. *Procedia-Social and Behavioral Sciences*, 197: 1340-1347. <https://doi.org/10.1016/j.sbspro.2015.07.387>
- Basler JA (2012). The moral development and perceptions of academic and clinical integrity of nursing students: An ex post facto study. Ph.D. Dissertation, Capella University, Minneapolis, USA.
- Beatty BR and Brew CR (2004). Trusting relationships and emotional epistemologies: A foundational leadership issue. *School Leadership and Management*, 24(3): 329-356. <https://doi.org/10.1080/1363243042000266954>
- Bergner S, Auburger J, and Paleczek D (2021). The why and the how: A nexus on how opportunity, risk and personality affect entrepreneurial intention. *Journal of Small Business Management*. <https://doi.org/10.1080/00472778.2021.1934849>
- Bhardwaj A and Punia BK (2013). Managerial competencies and their influence on managerial performance: A literature review. *International Journal of Advanced Research in Management and Social Sciences*, 2(5): 70-84.
- Campos JDS (2021). Analysis of entrepreneurial leadership skills and sustainable employee productivity of MSMEs. *Journal of Social Entrepreneurship Theory and Practice*, 1(1): 12-27. <https://doi.org/10.31098/jsetp.v1i1.645>
- Chanda A and Unel B (2021). Do attitudes toward risk taking affect entrepreneurship? Evidence from second-generation Americans. *Journal of Economic Growth*, 26(4): 385-413. <https://doi.org/10.1007/s10887-021-09197-8>
- Esiri M (2002). *The entrepreneurial problem solver*. Aspatore Books Herabudin, Jakarta, Indonesia.
- Esp D (2013). *Competences for school managers*. 1st Edition, Routledge, London, UK. <https://doi.org/10.4324/9780203761106>
- Etikan I and Bala K (2017). Sampling and sampling methods. *Biometrics and Biostatistics International Journal*, 5(6): 00149. <https://doi.org/10.15406/bbij.2017.05.00149>
- Everard KB, Morris G, and Wilson I (2004). *Effective school management*. Sage, Thousand Oaks, USA. <https://doi.org/10.4135/9781446211427>
- Fitriana DEN, Miyarsah M, and Rusdi R (2022). The influence of the big five personality on the student's motivation in protecting the environment. *Jurnal Pendidikan Indonesia Gemilang*, 2(2): 105-110. <https://doi.org/10.53889/jppig.v2i2.136>
- Gentilucci JL and Muto CC (2007). Principals' influence on academic achievement: The student perspective. *NASSP Bulletin*, 91(3): 219-236. <https://doi.org/10.1177/0192636507303738>
- Gray A and Jenkins B (2014). Democratic renewal in local government: Continuity and change. In: Pratchett L (Ed.), *Renewing local democracy?*: 26-45. Routledge, London, UK. <https://doi.org/10.1080/03003939908433965>
- Haryadi R and Pujiastuti H (2022). Enhancing pre-service physics teachers' higher-order thinking skills through STEM-PjBL model. *International Journal of STEM Education for Sustainability*, 2(2): 156-171. <https://doi.org/10.53889/ijses.v2i2.38>
- Ilies R, Morgeson FP, and Nahrgang JD (2005). Authentic leadership and eudaemonic well-being: Understanding leader-follower outcomes. *The Leadership Quarterly*, 16(3): 373-394. <https://doi.org/10.1016/j.leaqua.2005.03.002>
- McGuigan L and Hoy WK (2006). Principal leadership: Creating a culture of academic optimism to improve achievement for all students. *Leadership and Policy in Schools*, 5(3): 203-229. <https://doi.org/10.1080/15700760600805816>
- Mukhtar M, El Islami RAZ, Damanhuri D, and Hamundu FM (2021). Information and communication technologies to improve problem solving and self-efficacy: Exploring geometry learning using dynamic mathematics software Geogebra. *International Journal of STEM Education for Sustainability*, 1(1): 45-52. <https://doi.org/10.53889/ijses.v1i1.4>
- Mulyasa E (2005). *Menjadi kepala sekolah profesional dalam menyukseskan MBS dan KBK*. PT Remaja Rosdakarya, Bandung, Indonesia.
- Pebriani F, Heliawati L, and Ardianto D (2022). The effect of STREAM-based teaching materials using smart apps creator 3 on students' scientific literacy. *International Journal of STEM Education for Sustainability*, 2(1): 78-93. <https://doi.org/10.53889/ijses.v2i1.29>
- Phan HTT, Phan DD, and Nguyen TTT (2022). Is flipped learning more effective than traditional classrooms in developing prospective elementary teachers' competence of designing integrated natural science topics? *International Journal of STEM Education for Sustainability*, 2(1): 13-31. <https://doi.org/10.53889/ijses.v2i1.15>
- Reid DB (2021). US principals' sensemaking of the future roles and responsibilities of school principals. *Educational Management Administration and Leadership*, 49(2): 251-267. <https://doi.org/10.1177/1741143219896072>

- ROI (2003). Undang Undang No 20 tahun 2003 tentang Sistem Pendidikan Nasional. Republic of Indonesia, State Secretariat, Jakarta, Indonesia.
- Ryan TP (2013). Sample size determination and power. John Wiley and Sons, Hoboken, USA.
<https://doi.org/10.1002/9781118439241>
- Salsa FJ, Sari T, Muhar N, and Gusmawati G (2022). The relationship between motivation and learning outcomes of biology subject through distance learning. *International Journal of STEM Education for Sustainability*, 2(2): 140-147.
<https://doi.org/10.53889/ijses.v2i2.54>
- Sandholtz JH and Scribner SP (2006). The paradox of administrative control in fostering teacher professional development. *Teaching and Teacher Education*, 22(8): 1104-1117. <https://doi.org/10.1016/j.tate.2006.07.006>
- Sari IJ and El Islami RAZ (2022). A comparison of senior high school curriculum between Indonesia and Japan. *Jurnal Pendidikan Indonesia Gemilang*, 2(2): 123-129.
<https://doi.org/10.53889/jpig.v2i2.140>
- Schussler DL, Stooksberry LM, and Bercaw LA (2010). Understanding teacher candidate dispositions: Reflecting to build self-awareness. *Journal of Teacher Education*, 61(4): 350-363. <https://doi.org/10.1177/0022487110371377>
- Syahfitri J and Herlina M (2022). Online learning using google classroom for biology education students during COVID-19 outbreak. *International Journal of Biology Education Towards Sustainable Development*, 2(1): 23-33.
<https://doi.org/10.53889/ijbetsd.v2i1.118>
- Taun K, Zagalaz-Sánchez ML, and Chacón-Cuberos R (2022). Management skills and styles of school principals during the COVID-19 pandemic. *Education Sciences*, 12(11): 794.
<https://doi.org/10.3390/educsci12110794>
- Trianto (2011). Pengantar penelitian pendidikan bagi pengembang profesi pendidikan dan tenaga kependidikan. Prenada Media Group, Jakarta, Indonesia.
- Tschannen-Moran M (2009). Fostering teacher professionalism in schools: The role of leadership orientation and trust. *Educational Administration Quarterly*, 45(2): 217-247.
<https://doi.org/10.1177/0013161X08330501>
- Uma ERA, Makaborang Y, and Ndjoeroemana Y (2022). Pengaruh penggunaan media pembelajaran berbasis aplikasi android terhadap hasil belajar siswa kelas IX pada konsep perkembangbiakan tumbuhan. *Jurnal Pendidikan Indonesia Gemilang*, 2(1): 9-16. <https://doi.org/10.53889/jpig.v2i1.58>
- Victor AA (2017). Analysis of principals' managerial competencies for effective management of school resources in secondary schools in Anambra state, Nigeria. *IJSSHE-International Journal of Social Sciences, Humanities and Education*, 1(4): 1-10.
- Wahjosumidjo NO (2013). Kepemimpinan kepala sekolah: Tinjauan teoritik dan permasalahannya. Rajawali Pers, Jakarta, Indonesia.
- Widyastuti L, Usman U, and Rifqiawati I (2022). The effect of the discovery learning model through the aptitude treatment interaction (ATI) on student learning outcomes on the human motion system concept. *Jurnal Pendidikan Indonesia Gemilang*, 2(2): 111-122.
<https://doi.org/10.53889/jpig.v2i2.139>