

The Influence of Visionary Leadership and Teacher Pedagogical Competence on the Quality of Student Learning Outcomes at Madrasah Aliyah

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ABSTRACT

This study aims to analyze the influence of visionary leadership and teacher pedagogical competence on the quality of student learning outcomes at Madrasah Aliyah As-Sakienah Sliyeg, Indramayu Regency. The research method uses a quantitative approach with a verification method. The research population was 115 people with a sample of 90 respondents selected using random sampling techniques. Data were collected through questionnaires and analyzed using multiple linear regression with the help of SPSS version 20.0. The results of the study show that: (1) visionary leadership has a positive and significant effect on the quality of student learning outcomes with a contribution of 58.76% (t-count 4.938 > t-table 1.662); (2) teacher pedagogical competence has a positive and significant effect on the quality of student learning outcomes with a contribution of 49.28% (t-count 1.971 > t-table 1.662); and (3) visionary leadership and teacher pedagogical competence simultaneously have a positive and significant effect on the quality of student learning outcomes with a contribution of 60.40% (F-count 66.354 > F-table 2.15). This study recommends the importance of strengthening the visionary leadership of madrasah principals and improving teacher pedagogical competence to improve the quality of student learning outcomes.

INTRODUCTION

Education is a long-term strategic investment that determines the quality of a nation's human resources. In the era of globalization and the industrial revolution 4.0, the demand for improving education quality is increasingly pressing in response to shifting learning paradigms that focus on developing critical, creative, collaborative, and communicative thinking skills (Trilling & Fadel, 2009). The quality of student learning outcomes is a key indicator of the education system's success in preparing a competent and adaptive generation to the dynamics of changing times.

Indonesia's education system faces complex challenges in improving the quality of learning outcomes. The 2022 Programme for International Student Assessment (PISA) data shows that Indonesia ranks 64th out of 81 countries, with scores of 371 in

mathematics, 359 in reading, and 383 in science, still below the OECD average (OECD, 2023). This situation indicates the need for fundamental transformation in the national education system, including improving the quality of educational leadership and the professional competence of educators.

Regulatorily, the Indonesian government's commitment to improving the quality of education has been outlined in various laws and regulations. Law Number 20 of 2003 concerning the National Education System mandates that national education aims to develop the potential of students to become individuals who believe in and fear God Almighty, possess noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens. Furthermore, Government Regulation Number 57 of 2021 concerning National Education Standards emphasizes the importance of quality standards in all aspects of education delivery.

However, the implementation of policies to improve education quality still faces various substantial obstacles. A survey by the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek) showed that 67.11% of teachers experienced difficulties in operating digital technology devices, while 88.7% of students faced limited learning support facilities (Ministry of Education, Research, and Technology, 2022). This condition significantly impacted students' concentration (51.1%) and overall learning motivation (Dewayani, 2021).

Madrasahs, as a subsystem of the national education system, have their own unique characteristics in the context of educational management. As educational institutions that integrate general and religious learning, madrasahs face dual challenges in improving the quality of student learning outcomes (Muhaimin, 2018). Data from the Ministry of Religious Affairs shows that of the 8,194 Madrasah Aliyah (Islamic Senior High Schools) in Indonesia, approximately 65% still require improvements in infrastructure and the quality of their teaching staff (Indonesia, 2023).

Problems with educational quality are also evident at Madrasah Aliyah As-Sakienah Sliyeg in Indramayu Regency. Initial observations indicate that student learning outcomes are suboptimal, particularly in literacy, numeracy, and character development. National exam and minimum competency assessment results indicate that average student achievement falls below national standards, with literacy rates at 45% and numeracy at 38% of the established standards.

The complexity of the problem of learning outcomes quality cannot be seen as a single phenomenon, but rather as the result of various interacting factors. Scheerens, in his school effectiveness model, identified that learning outcomes quality is influenced by input factors (resources), processes (leadership and learning), and context (socio-cultural environment). In this context, the principal's visionary leadership and teachers' pedagogical competence are crucial process factors (Scheerens et al., 2013).

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Visionary leadership is a future-oriented leadership paradigm with the ability to anticipate change, create inspiring visions, and mobilize all organizational components to achieve common goals (Kouzes & Posner, 2017). In the educational context, the principal's visionary leadership is a catalyst for the school's transformation into an adaptive and innovative learning organization.

Visionary leadership theory was developed based on the concept of transformational leadership initiated by Burns (Burns, 1978) and expanded by Bass (Burns, 1978). Transformational leadership emphasizes the leader's ability to inspire, motivate, and develop the potential of subordinates through a clear vision and the implementation of appropriate strategies. Senge (Senge, 1990) strengthens this concept by emphasizing the importance of a learning organization led by leaders who have a systemic vision and strategic thinking skills.

Empirical research shows a positive correlation between the principal's visionary leadership and improvements in educational quality. A longitudinal study in the UK found that principals with a visionary orientation were able to improve student academic achievement by up to 15% within three years (Day et al., 2009). Leithwood & Jantzi also confirmed that the principal's transformational leadership contributed significantly to increasing teacher motivation and student learning outcomes (Leithwood & Jantzi, 2006).

In Indonesia, Wahyudi's research on 150 elementary schools showed that the principal's visionary leadership had a positive and significant impact on teacher performance, with a coefficient of determination of 64.2% (Wahyudi, 2019). A similar study by Mulyono in Central Java found that visionary leadership contributed 58.7% to improving learning quality (Mulyono et al., 2020).

Teacher pedagogical competence is a professional ability related to understanding students and managing educational and dialogic learning (Shulman, 1987). This competence includes understanding educational insights or foundations, understanding students, curriculum/syllabus development, learning design, implementing educational and dialogic learning, utilizing learning technology, evaluating learning outcomes, and developing students to actualize their various potentials.

The theoretical framework of pedagogical competence was developed based on the theory of social constructivism (Vygotsky, 1978), which emphasizes the importance of social interaction in the learning process. The concept of the Zone of Proximal Development (ZPD) serves as a foundation for teachers to understand students' levels of cognitive development and design learning that meets individual needs.

Regulation of the Minister of National Education Number 16 of 2007 concerning Academic Qualification Standards and Teacher Competencies stipulates

pedagogical competence as one of the four main competencies that professional teachers must possess. These competencies include: (1) mastering student characteristics; (2) mastering learning theories and educational learning principles; (3) developing curriculum; (4) organizing educational learning; (5) utilizing information and communication technology; (6) facilitating the development of student potential; (7) communicating effectively; and (8) conducting assessments and evaluations.

Empirical evidence shows a strong correlation between teacher pedagogical competence and student learning outcomes. A Darling-Hammond meta-analysis of 35 studies found that teacher quality is the most influential in-school factor on student academic achievement. Teachers with high pedagogical competence can increase student learning outcomes by up to 1.5 standard deviations compared to teachers with low competence (Darling-Hammond, 2017).

The interaction between the principal's visionary leadership and the teachers' pedagogical competence creates a learning ecosystem conducive to improving student learning outcomes. The effective school system model (Edmonds, 1979; Sammons et al., 1995) identifies strong instructional leadership and high-quality learning as key characteristics of high-performing schools.

Hallinger & Heck, through a longitudinal study, confirmed that principal leadership indirectly influences student learning outcomes through the mediation of teacher instructional quality. Principals with a clear vision are able to create a school culture that encourages teachers to continuously develop their professional competencies (Hallinger & Heck, 2010).

Robinson et al., through a meta-analysis of 27 studies, found that the leadership dimension most influential on student learning outcomes was "promoting and participating in teacher learning and development," with an effect size of 0.84. This finding indicates the importance of synergy between visionary leadership and teacher competency development in efforts to improve educational quality (Robinson et al., 2008).

METHODOLOGY

This study used a quantitative approach with a verification method to test hypotheses about the influence between variables. The study population was all 115 students, teachers, and employees of Madrasah Aliyah As-Sakienah Sliyeg. The research sample was determined using the Slovin formula with a 5% error rate, resulting in 90 respondents selected through a random sampling technique.

The research instrument was a questionnaire with a Likert scale that has been tested for validity and reliability. The visionary leadership variable was measured using 21 statement items with 9 dimensions including: thinking about the future, creating a culture, realizing a quality organization, clarifying direction, reflecting ideals, fostering inspiration, implying values, motivating employees, and coordinating actions. The teacher pedagogical competence variable was measured using 22 statement items with 10 dimensions. The quality of student learning outcomes variable was measured using 12 statement items with 3 dimensions: literacy skills, numerical skills, and character.

The data analysis techniques used: (1) analysis requirements tests including validity tests ($r > 0.300$), reliability tests (Cronbach Alpha > 0.700), normality tests (Kolmogorov-Smirnov), and multicollinearity tests ($VIF < 10$); (2) multiple linear regression analysis to test the influence of independent variables on dependent variables; (3) hypothesis testing using the t-test for partial effects and the F-test for

simultaneous effects; and (4) determination coefficient tests (R^2) to determine the magnitude of the contribution of independent variables. All data analysis was carried out using SPSS version 20.0.

RESULTS AND DISCUSSION

Requirements Analysis Test Results

The validity test results showed that all instrument items were valid with r -values > 0.300 . For the visionary leadership variable, the r -value ranged from 0.622 to 0.878. The teacher pedagogical competence variable had an r -value between 0.404 and 0.776, while the quality of student learning outcomes had an r -value between 0.559 and 0.754.

Table 1. Results of Instrument Reliability Test

Variables	r-count	r-table	Conclusion
Visionary Leadership	0.972	0.700	Reliable
Teacher Pedagogical Competence	0.864	0.700	Reliable
Quality of Learning Outcomes	0.908	0.700	Reliable

The normality test using Kolmogorov-Smirnov showed that the data were normally distributed with a significance value of visionary leadership (0.210), teacher pedagogical competence (0.214), and student learning outcomes quality (0.218) > 0.05 . The multicollinearity test showed that there was no multicollinearity with the VIF value of both independent variables being $3.005 < 10$.

Hypothesis Testing Results

Table 2. Correlation Analysis Results

Variables	Quality of Learning Outcomes	Visionary Leadership	Pedagogical Competence
Quality of Learning Outcomes	1,000	0.766**	0.702**
Visionary Leadership	0.766**	1,000	0.817**
Pedagogical Competence	0.702**	0.817**	1,000

Information: ** significant at $\alpha = 0.01$

Table 3. Multiple Regression Test Results

Model	B	Std. Error	Beta	t	Sig.
(Constant)	8,136	3,288	-	2,474	0.015
Visionary Leadership	0.337	0.068	0.578	4,938	0,000
Pedagogical Competence	0.140	0.071	0.230	1,971	0.052

Table 4. F Test Results (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	4227,940	2	2113,970	66,354	0,000
Residual	2771,716	87	31,859	-	-
Total	6999,656	89	-	-	-

Table 5. Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error
1	0.777	0.604	0.595	5,644

The Influence of Visionary Leadership on the Quality of Learning Outcomes

The results of the study showed that visionary leadership had a positive and significant effect on the quality of student learning outcomes with a calculated t-value (4.938) > t-table (1.662) and a contribution of 58.76%. This finding is in line with Kartono's theory (2016) which states that the success of visionary leadership is characterized by increased production results and the provision of organizational services. In the context of education, madrasah principals with visionary leadership are able to create a conducive learning environment, motivate teachers and students to achieve their best potential, and direct all resources to achieve the vision of quality education.

The results of this study support those of Maria Ulpah et al. (2023) and Taufik Nor & Ahmad Suriansyah (2024), who found that visionary leadership by school principals contributes significantly to improving educational quality. Visionary principals possess the ability to see the future, anticipate change, and develop adaptive strategies according to the demands of the times.

The Influence of Teachers' Pedagogical Competence on the Quality of Learning Outcomes

Teachers' pedagogical competence has been proven to have a positive and significant impact on the quality of student learning outcomes, with a calculated t-value (1.971) > t-table (1.662) and a contribution of 49.28%. This finding reinforces Government Regulation Number 19 of 2005, which emphasizes the importance of pedagogical competence as a teacher's ability to manage learning. Teachers with good pedagogical competence are able to understand student characteristics, design effective learning, implement educational learning processes, and conduct comprehensive evaluations.

These results align with research by Ahmad Bagus Syifaur Romli & Didit Darmawan (2025), which showed that teacher pedagogical competence significantly influences student learning outcomes. Pedagogical competence is a key factor in transforming knowledge, developing skills, and shaping student character.

The Simultaneous Influence of Visionary Leadership and Pedagogical Competence

Simultaneously, visionary leadership and teacher pedagogical competence have a positive and significant effect on the quality of student learning outcomes, with an F-count (66.354) > F-table (2.15) and a contribution of 60.40%. This indicates that the combination of strong visionary leadership and adequate teacher pedagogical competence creates synergy in improving the quality of learning outcomes. The remaining 39.60% is influenced by other factors such as facilities and infrastructure, school culture, and parental support.

The regression equation $Y = 8.136 + 0.337X_1 + 0.140X_2$ shows that every increase of one unit of visionary leadership will increase the quality of learning outcomes by 0.337 units, and every increase of one unit of pedagogical competence will increase the quality of learning outcomes by 0.140 units. Sensitivity analysis shows that the quality of learning outcomes is more sensitive to changes in visionary leadership (β

= 0.578) than pedagogical competence ($\beta = 0.230$).

CONCLUSION

Based on the research results, it can be concluded that visionary leadership and teacher pedagogical competence, both partially and simultaneously, have a positive and significant effect on the quality of student learning outcomes at Madrasah Aliyah As-Sakienah Sliyeg, Indramayu Regency. Visionary leadership provides the largest contribution (58.76%) in improving the quality of learning outcomes, followed by teacher pedagogical competence (49.28%). Together, these two variables contribute 60.40% to improving the quality of student learning outcomes.

The implications of this research emphasize the importance of strengthening the visionary leadership of madrasah principals through developing strategic, innovative, and anticipatory change capabilities. Simultaneously, improving teachers' pedagogical competence through ongoing training is essential to optimize the learning process. Future research is recommended to explore other variables that influence the quality of learning outcomes, such as school culture, learning motivation, and parental involvement in education.

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