

The Role of Teacher Competence as a Mediating Variable between Principals' Leadership Style and Teacher Characteristics on Teacher Performance in Elementary Schools of Babalan District, Langkat Regency

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Abstract

This study aims to analyze the influence of leadership style and teacher characteristics on teacher performance, with competence serving as an intervening variable among elementary school teachers in Babalan District, Langkat Regency. The decline in teacher performance in this area has become a major concern in the context of educational management, considering that teachers play a central role in achieving the quality of learning outcomes. The study employed a quantitative approach using path analysis. Data were collected through questionnaires distributed to elementary school teachers and analyzed using multiple regression and Sobel tests to examine the mediating effect of competence. The results revealed that the principal's leadership style had no significant effect on teacher competence or performance. In contrast, teacher characteristics had a positive and significant effect on competence, and competence significantly affected teacher performance. The Sobel test further indicated that competence did not mediate the relationship between leadership style and performance but significantly mediated the effect of teacher characteristics on performance. These findings suggest that improvements in teacher performance are more strongly influenced by individual characteristics and professional competence rather than by structural leadership factors. Therefore, efforts to enhance the quality of primary education should focus on developing teacher competence based on individual characteristics while encouraging a more participatory and developmental leadership approach among school principals.

Keywords: Leadership Style, Teacher Characteristics, Competence, Teacher Performance, Primary Education

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Introduction

Primary education plays a strategic role in establishing the foundation of high-quality human resources; therefore, improving teacher performance is a crucial factor in efforts to enhance the quality of national education. Teacher performance in elementary schools cannot be separated from various influencing factors, both internal and external. Internal factors include teacher competence and personal characteristics, while external factors involve the leadership style of school principals [1]. Effective leadership is essential in creating a conducive work environment, motivating teachers to innovate, and strengthening their professionalism in carrying out instructional duties.

The educational conditions in Langkat Regency, particularly in Babalan District, indicate that improving teacher quality remains a significant challenge. According to data from the Central Bureau of Statistics (BPS) of North Sumatra in 2024, the Human Development Index (HDI) of Langkat Regency was recorded at 74.85, which is still below the provincial average of 76.48. This disparity reflects existing gaps in the quality of regional education [2]. In practice, several issues are still observed, such as delays in the preparation of instructional materials, low levels of innovation, and suboptimal work discipline among elementary school teachers.

Within the context of educational organizations, school principals play a pivotal role as leaders who are capable of mobilizing teachers' potential through appropriate leadership styles. The leadership style adopted by principals can influence teachers' behavior, motivation, and work effectiveness. Principals who implement democratic and participatory leadership styles tend to encourage greater responsibility and involvement among teachers in the teaching and learning process [3]. Nevertheless, several studies indicate that the influence of leadership on teacher performance is often indirect, operating through mediating factors such as teachers' professional competence [4].

Professional competence is a critical aspect that determines teachers' success in conducting instructional activities. Teachers with high levels of competence are able to master subject matter, apply appropriate teaching methods, and carry out effective learning evaluations [5]. This competence also serves as a mediating mechanism linking the effects of principals' leadership styles and teacher characteristics on teacher performance. In other words, effective leadership enhances teacher competence, while personal characteristics such as educational background, teaching experience, and motivation further reinforce it [6].

Based on these considerations, this study focuses on analyzing the role of teacher competence as a mediating variable between principals' leadership styles and teacher characteristics on teacher performance in elementary schools in Babalan District, Langkat Regency. This study is expected to provide empirical insights into how leadership factors and individual characteristics interact through professional competence to improve teacher performance, while also serving as a foundation for efforts to enhance the quality of education at the elementary school level.

Research Methodology

This study employed a quantitative approach with an exploratory associative method, aiming to analyze the causal relationships among principals' leadership style, teacher characteristics, professional competence, and teacher performance. This approach was selected because it allows for the examination of both direct and indirect relationships among variables through mediation model testing.

Research Site and Population

The study was conducted in public elementary schools in Babalan District, Langkat Regency, with a total population of 382 teachers (BPS North Sumatra, 2025). From this population, the research focused on five public elementary schools, namely SDN 050742, SDN

050746, SDN 050751, SDN 050759, and SDN 053996, involving 66 teachers as respondents. The research sites were selected using purposive sampling based on the representativeness of school conditions and the availability of active respondents.

Types and Sources of Data

The data used in this study consisted primarily of primary data obtained through the distribution of questionnaires using Google Forms to teachers in the sampled schools. The questionnaire was designed using a four-point Likert scale (1 = strongly disagree to 4 = strongly agree) to measure respondents' perceptions of each research indicator. In addition, secondary data were used to support the analysis, including regional education data from the Central Bureau of Statistics (BPS) and school reports.

Variables and Operational Definitions

This study involved four main variables:

1. **Principals' Leadership Style (X_1):** teachers' perceptions of principals' leadership patterns in providing direction, motivation, supervision, and decision-making.
2. **Teacher Characteristics (X_2):** individual attributes of teachers, such as age, gender, highest educational attainment, and teaching experience.
3. **Teachers' Professional Competence (Z):** teachers' ability to master subject matter, apply teaching methods, utilize instructional media, and conduct learning evaluations.
4. **Teacher Performance (Y):** teachers' work outcomes in planning, implementing, and evaluating the teaching and learning process, as well as their responsibility toward professional duties.
- 5.

Data Analysis Techniques

Data were analyzed using path analysis with the assistance of SPSS version 26 to examine both direct and indirect effects among variables and to identify the mediating role of teacher competence. The stages of data analysis included:

1. Validity and reliability tests to ensure the adequacy of the research instruments (r -count > 0.244 ; $\alpha > 0.70$).
2. Classical assumption tests, including normality, multicollinearity, and heteroscedasticity tests, to ensure that the regression model met statistical requirements.
3. Multiple linear regression analysis to examine the relationships between independent variables and the mediating and dependent variables.
4. Mediation testing using the Sobel test to assess the extent to which teacher competence mediates the relationship between principals' leadership style and teacher characteristics on teacher performance.

Path analysis was employed because it enables the measurement of the direct effects of principals' leadership style and teacher characteristics on teacher performance, as well as indirect effects through professional competence as a mediating variable.

Results

This study was conducted involving 66 elementary school teachers in Babalan District, Langkat Regency. The data were collected through questionnaires that had been tested for validity and reliability. All questionnaire items were declared valid, with correlation values greater than 0.244, and reliable, with Cronbach's Alpha values exceeding 0.70. Therefore, the instruments were deemed appropriate for further analysis.

Regression Analysis Results

Regression analysis was conducted in two stages to examine both the direct and indirect effects among variables.

Regression of Principals' Leadership Style and Teacher Characteristics on Teacher Competence (Z)

Table 1. Regression Results of Principals' Leadership Style and Teacher Characteristics on Teacher Competence (Z)

Variable	B Coefisien	Std. Error	Sig.	Description
Principals Leadership (X ₁)	-0.060	0.121	0.620	Not Significant
Teacher Characteristics (X ₂)	0.529	0.136	<0.01	Significant
R Square (R ²)	0.543			
Sig. F	24.543 (<0.05)			

The regression analysis results indicate that the coefficient of determination (R²) is 0.543, meaning that 54.3% of the variation in teacher competence is explained by principals' leadership style and teacher characteristics, while the remaining 45.7% is explained by other factors outside the model. The significance value of the F-test (F = 24.543; p < 0.05) indicates that the regression model is statistically acceptable, as there is a simultaneous effect of principals' leadership style and teacher characteristics on teacher competence.

However, partial testing reveals that principals' leadership style does not have a significant effect on teacher competence (p = 0.620 > 0.05). In contrast, teacher characteristics have a positive and significant effect on teacher competence (p < 0.01).

These findings indicate that the development of teacher competence is more strongly influenced by internal factors, such as work motivation, sense of responsibility, and the ability to adapt to professional tasks, rather than external factors related to the leadership style of school principals.

Regression of Principals' Leadership Style, Teacher Characteristics, and Teacher Competence on Teacher Performance (Y)

Table 2. Regression Results of Principals' Leadership Style, Teacher Characteristics, and Teacher Competence on Teacher Performance

Variable	B Coefisien	Std. Error	Sig.	Description
Principals Leadership (X ₁)	0.137	0.133	0.307	Not Significant
Teacher Characteristics (X ₂)	0.127	0.167	0.451	Not Significant
Teacher Competence (Z)	0.530	0.123	<0.01	Significant
R Square (R ²)	0.441			
Sig. F	16.319 (<0.05)			

Based on the table above, teacher competence has a positive and significant effect on teacher performance (Sig. < 0.01), whereas principals' leadership style and teacher characteristics do not have a direct effect on teacher performance (Sig. > 0.05).

The regression model is considered feasible with an F significance value of 16.319 (< 0.05) and a coefficient of determination (R²) of 0.441, indicating that 44.1% of the variation in teacher performance can be explained by the three variables.

Mediation Test (Sobel Test)

Table 1. Mediation Test Results

Mediation Road	Z hitung	Description
Principal's Leadership → Competence → Teacher Performance	-0.47	Not significant

Mediation Road	Z hitung	Description
Teacher Characteristics → Competence → Teacher Performance	2.83	Significant

The results of the Sobel test show that teacher competence does not mediate the effect of leadership style on teacher performance because the calculated Z value is $-0.47 < 1.96$. In contrast, teacher competence significantly mediates the effect of teacher characteristics on teacher performance (calculated $Z = 2.83 > 1.96$). Thus, teacher competence is proven to be a partial mediating variable, strengthening the relationship between teacher characteristics and performance, but not the influence of leadership style.

Discussion

Leadership Style and Teacher Competence: Limitations of Structural Influence

The regression results indicate that principals' leadership style does not have a significant effect on teacher competence (Sig. = 0.620). Theoretically, leadership should be one of the key determinants in the development of teacher professionalism. In the concept of transformational leadership, effective leaders are expected to inspire, provide individualized consideration, and guide the development of their subordinates' capacities. However, the empirical reality in Babalan District shows that the role of school principals remains limited to administrative functions and formal supervision. Leadership that is oriented merely toward control without in-depth coaching tends to fail in encouraging the improvement of teacher competence. This phenomenon indicates that leadership at the elementary school level has not yet reached a transformational dimension but remains within a transactional paradigm, where compliance with procedures is prioritized over human capacity development.

Thus, the low significance of leadership influence on teacher competence reflects a structural gap within the basic education management system. Teachers work under the direction of principals but have not yet received sufficient professional guidance to develop their competencies. This condition is consistent with the findings of Fitrahayati et al. (2025) [7], who emphasize that leadership will only have a positive impact on performance when accompanied by effective mechanisms for human resource development and empowerment.

Teacher Characteristics and Teacher Competence: The Foundation of Human Capital

In contrast, the results show that teacher characteristics have a positive and significant effect on competence (Sig. < 0.01). These findings indicate that improvements in teacher competence are largely derived from intrinsic factors such as work experience, educational background, responsibility, and professional commitment. Teachers with extensive experience tend to possess more mature pedagogical reasoning, a deeper understanding of student dynamics, and a greater ability to adjust learning approaches to students' needs. Individual qualities such as education, skills, and experience represent productive investments that generate added value for organizations. In this context, teacher characteristics function as human capital that shapes professional competence and determines performance quality. Furthermore, these findings are consistent with Nurzaman (2024) [8], who explains that competence acts as an intervening variable linking individual characteristics and work performance.

Teachers who demonstrate high discipline, responsibility, and intrinsic motivation are more capable of internalizing professional values and implementing them in instructional practices. In other words, competence reflects teachers' personal excellence, strengthened by experience and dedication to the profession.

Teacher Competence and Teacher Performance: The Main Determining Factor

The second-stage regression analysis shows that teacher competence has the most significant effect on performance ($B = 0.530$; Sig. < 0.01). These results indicate that pedagogical, professional, social, and personal competencies possessed by teachers are the

main components determining the quality of learning and overall work performance. Conceptually, competence represents the professional self-actualization of teachers. Competent teachers not only understand learning theories but are also able to apply them effectively in the classroom.

They are capable of managing time, addressing differences in students' abilities, and conducting reflective, outcome-based evaluations. High teacher performance is a direct manifestation of strong competence. These findings are reinforced by the study of Muspawi (2021) [9], which states that competence is the most dominant factor influencing teacher performance in elementary schools. Therefore, strengthening teacher competence is a strategic focal point for improving educational quality.

The Mediating Role of Teacher Competence: Between Structure and Individual

The Sobel test results reveal two important directions:

- a. Teacher competence does not mediate the effect of leadership style on performance ($Z = -0.47 < 1.96$),
- b. Teacher competence significantly mediates the effect of teacher characteristics on performance ($Z = 2.83 > 1.96$).

The interpretation of these results is noteworthy. The insignificance of the mediation pathway between leadership and performance indicates that principals' leadership has not yet functioned as a catalyst for enhancing teacher competence. In other words, leadership at the school level has not fully succeeded in creating a learning culture for teachers.

However, the significant mediation pathway between teacher characteristics and performance through competence demonstrates that individual factors exert greater influence than structural factors. Strong teacher characteristics drive competence improvement, which ultimately leads to higher performance. These findings support the study of Rukaiyah et al. (2025) [10], which states that mediating factors such as motivation and competence can strengthen the relationship between personal variables and work performance.

From a theoretical perspective, this indicates a shift in the educational management paradigm from a top-down leadership model toward a teacher-centered empowerment model, in which teachers become active agents in the process of improving educational quality.

Conclusion

Based on the results of this study conducted among elementary school teachers in Babalan District, Langkat Regency, it can be concluded that teacher performance is more strongly determined by competence and individual characteristics than by principals' leadership style. Principals' leadership style was found to have no significant effect on either teacher competence or teacher performance, indicating that leadership roles remain administrative in nature and have not yet provided tangible support for enhancing teachers' professional capacity. This condition suggests that efforts to improve teacher performance cannot rely solely on structural or formal approaches but must be supported by transformational leadership that focuses on continuous coaching, mentoring, and strengthening teacher competencies.

Conversely, teacher characteristics show a positive and significant effect on competence. Factors such as work experience, educational level, and professional commitment contribute substantially to the development of teachers' pedagogical and professional competencies. This reinforces the view that teacher quality is the result of human capital that evolves through long-term learning processes, reflection, and work experience. Thus, improvements in teacher performance are rooted in individuals' capacity to consistently develop their competencies, rather than merely responding to pressure or directives from school leadership.

Teacher competence is proven to be the most influential variable affecting performance, whereby higher competence leads to higher performance. Competent teachers possess the ability to design effective learning activities, create conducive learning environments, and

conduct appropriate evaluations. The mediation test results show that competence does not mediate the relationship between leadership style and teacher performance but significantly mediates the relationship between teacher characteristics and performance. In other words, strong individual teacher characteristics enhance competence, which ultimately contributes directly to improved performance.

Overall, this study confirms that improving the quality of basic education can only be achieved when human resource development focuses on strengthening teacher competence. Strong leadership structures will be effective when accompanied by teachers who are characterized by strong personal attributes, extensive experience, and adequate professional abilities. Therefore, competence development based on individual teacher characteristics is the key to creating high-quality and competitive educators.

Recommendations

The findings of this study have important implications for stakeholders in the education sector. For school principals, it is recommended to shift leadership patterns from bureaucratic approaches toward more transformational ones. Principals should act as facilitators and mentors who are capable of professionally guiding teachers through regular coaching, academic mentoring, and the strengthening of collaborative cultures within schools. Leadership that fosters trust, appreciation, and professional dialogue will be more effective in enhancing teacher competence and motivation.

For teachers, self-development should be a continuous professional commitment. Teachers need to take advantage of training opportunities, seminars, and experience-sharing forums to improve pedagogical, social, and professional competencies. In addition, strengthening character traits such as discipline, responsibility, and work ethics must be maintained so that existing competencies can be optimally implemented in classroom learning activities.

Meanwhile, for local governments and education authorities, policies for teacher development should place greater emphasis on human resource empowerment rather than solely on administrative evaluation. Training and career development programs should be designed based on the real needs of teachers in the field, emphasizing participatory and contextual approaches. Through such strategies, it is expected that a sustainable coaching system can be created that is relevant to the challenges of modern education.

This study also opens opportunities for further research by incorporating additional variables such as work motivation, organizational culture, or institutional support to more comprehensively explain factors influencing teacher performance. By expanding the scope and deepening analytical dimensions, future research is expected to contribute more substantially to the development of human resource management in the education sector.

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