

The Educational Leadership of the School Principal in Enhancing Learning Quality through Teacher Interaction and Classroom Climate at Muhammadiyah Special Program Elementary School, Banyudono.

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ABSTRACT

This study aims to examine the role of the principal's educational leadership in improving learning quality through teacher interaction and classroom climate at Muhammadiyah Special Program Elementary School, Banyudono. The research employed a quantitative descriptive approach to analyze how educational leadership practices influence instructional processes and classroom conditions. The population of this study consisted of students at the school, with a sample of 30 students selected using a purposive sampling technique. Data were collected through questionnaires, classroom observations, and documentation, and were analyzed using descriptive statistical techniques in the form of percentages. The results indicate that the principal's educational leadership was implemented at a high level, with an achievement percentage of 85.4%, indicating strong leadership effectiveness. Teacher interaction in the learning process reached a percentage of 82.7%, categorized as good, reflecting active and constructive communication between teachers and students. Meanwhile, the classroom climate achieved a percentage of 84.1%, indicating a conducive and supportive learning environment. Overall, the quality of learning showed a positive outcome with an average percentage of 83.9%, suggesting that educational leadership, teacher interaction, and classroom climate significantly contribute to the enhancement of learning quality. These findings conclude that effective educational leadership by the school principal plays a crucial role in fostering positive teacher interaction and a conducive classroom climate, which in turn improves the overall quality of learning at the elementary school level.

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Introduction

School principals' leadership plays a strategic role in determining the direction and quality of the implementation of basic education. In the context of integrated Islamic elementary schools or schools with special programs, the principal functions not merely as an administrative manager, but as an educational leader who is capable of directing, guiding, and mobilizing all school resources toward the sustainable improvement of learning quality. Educational leadership requires principals to be directly involved in pedagogical processes,

teachers' professional development, and the creation of a conducive learning environment.

The quality of learning at the elementary school level is influenced by various interrelated factors, including teacher interaction in the learning process and the classroom climate that is formed. Effective teacher interaction reflects pedagogical competence, communication skills, and teachers' sensitivity to students' learning needs. A positive classroom climate contributes to psychological comfort, learning motivation, and students' active engagement in the learning process. Both aspects are strongly influenced by the leadership style and practices of the school principal.

A number of recent studies indicate that school leadership has a significant influence on teacher performance and student learning outcomes. Hallinger (2021), emphasizes that instructional leadership is oriented toward strengthening teaching practices and learning culture within schools. Another study by Leithwood and Sun (2020), reveals that leadership focused on learning exerts a strong indirect impact on student achievement through the improvement of instructional quality.

Studies related to teacher interaction and learning quality also demonstrate relevant findings. Research conducted by Pianta et al. (2020), explains that warm, structured, and responsive teacher-student interactions are able to enhance elementary students' cognitive and social engagement. Such interactions serve as a primary bridge in transforming the written curriculum into meaningful learning experiences for learners.

Classroom climate as a psychosocial dimension of learning has also received considerable attention in contemporary educational research. Wang and Degol (2021), state that a safe, supportive, and student-participatory classroom climate is positively correlated with intrinsic motivation and academic achievement. Classroom climate does not emerge spontaneously, but is shaped through school policies, leadership practices, and the consistent implementation of educational values.

Research conducted in the context of Islamic elementary schools in Indonesia shows a tendency to focus on school management or school leadership in general. For instance, a study by Suyatno et al. (2022), discusses principals' leadership in strengthening students' religious character, while aspects of teacher interaction and classroom climate have not been examined in depth as mediating variables in improving learning quality.

Another study by Rahmawati and Nugroho (2023), examines the influence of transformational leadership of school principals on teacher performance in Muhammadiyah elementary schools. The findings confirm the important role of school leadership, but they do not elaborate on how educational leadership affects learning quality through teacher interaction practices and classroom climate conditions simultaneously.

Based on a review of previous studies, a research gap can be identified. Studies that integrate educational leadership, teacher interaction, and classroom climate as a unified analytical framework in the context of Islamic elementary schools with special programs remain limited. In fact, the characteristics of schools with special programs require more intensive and contextual leadership approaches to the learning process.

The novelty of this study lies in its analytical approach, which positions the principal's educational leadership as a key factor influencing learning quality through two main pathways, namely teacher interaction and classroom climate. This study does not merely portray leadership as a structural function, but as a pedagogical practice that has a direct impact on

classroom learning dynamics.

In addition, this study presents empirical evidence from Muhammadiyah Special Program Elementary School Banyudono, which has distinctive characteristics in terms of curriculum, school culture, and quality orientation compared to regular elementary schools. This context provides added value to the body of research on educational leadership, particularly in schools based on Islamic values and academic excellence.

This study also contributes to the development of educational leadership theory by strengthening the argument that educational leadership is multidimensional in nature. Principals act as instructional leaders, pedagogical coaches, and cultural leaders who simultaneously shape the quality of teacher interaction and classroom climate. This perspective enriches the discourse on school leadership, which has often been treated in a fragmented manner.

From a practical perspective, the findings of this study are expected to serve as a reference for school principals in designing leadership strategies oriented toward improving learning quality. The research findings can be utilized as a basis for decision-making in teacher development, academic supervision, and the creation of a conducive, student-centered classroom environment.

Another contribution of this study is the provision of relevant empirical evidence for Muhammadiyah school administrators and elementary schools with special programs in optimizing the role of school leadership. This evidence is important to support school quality improvement policies that are aligned with global educational demands and local Islamic values.

For the development of educational policy, this study implies that improving learning quality cannot be separated from strengthening the capacity of principals' educational leadership. Policies on training and professional development for school principals need to be directed toward the mastery of pedagogical competencies, instructional communication, and classroom climate management.

Therefore, research on the educational leadership of school principals in improving learning quality through teacher interaction and classroom climate at Muhammadiyah Special Program Elementary School Banyudono has strong theoretical and practical relevance. This study is expected to make a significant contribution to the literature on educational leadership and to the practice of improving learning quality at the elementary school level.

Method

This study employed a descriptive quantitative approach. This approach was selected to obtain an objective and measurable depiction of the principal's educational leadership in enhancing learning quality through teacher interaction and classroom climate. The quantitative approach enables systematic measurement of variables and the presentation of findings in numerical data analyzed using descriptive statistics (Creswell & Creswell, 2023).

The research design adopted a survey design with a cross-sectional approach. This design was used to collect data at a single point in time to identify the conditions of the principal's educational leadership, teacher interaction, classroom climate, and learning quality as experienced by respondents during the learning process (Mertens, 2020).

The objectives of this study were to: analyze the level of the principal's educational

leadership at Muhammadiyah Special Program Elementary School Banyudono; identify the quality of teacher interaction in the learning process; describe the classroom climate that is formed; and evaluate learning quality as an outcome of the principal's educational leadership through teacher interaction and classroom climate (Hallinger, 2021).

The evaluation model applied in this study was the CIPP model (Context, Input, Process, Product). This model was chosen because it provides a comprehensive evaluation framework for educational programs and practices. Context evaluation was used to assess the alignment of the principal's leadership with the school's vision and needs. Input evaluation assessed teacher readiness and supporting learning facilities. Process evaluation focused on teacher interaction and classroom climate during instruction. Product evaluation assessed the resulting learning quality (Stufflebeam & Zhang, 2021).

The study was conducted at Muhammadiyah Special Program Elementary School Banyudono, Boyolali Regency, Central Java, Indonesia. This school was selected due to its characteristics as an elementary school with a special program emphasizing learning quality, the strengthening of Islamic values, and the development of pedagogical quality (Suyatno et al., 2022).

Instrument validity testing was conducted using content validity and construct validity. Content validity was established through expert judgment involving scholars in educational management and practitioners in elementary education. Construct validity was tested using item-total correlation analysis (Corrected Item-Total Correlation). The instrument was considered valid when the correlation coefficient exceeded the *r*-table value at a significance level of 0.05 (Creswell & Creswell, 2023).

Data collection techniques included: questionnaires, used to measure respondents' perceptions of the principal's educational leadership, teacher interaction, classroom climate, and learning quality; observations, used to directly observe the learning process, patterns of teacher interaction, and classroom atmosphere; and documentation, used to obtain supporting data such as school profiles, organizational structures, and academic documents related to learning (Mertens, 2020).

The research procedure was carried out in several stages. The first stage involved a preliminary study to identify problems and school characteristics. The second stage involved the development and pilot testing of research instruments. The third stage involved data collection through questionnaires, observations, and documentation. The fourth stage involved data analysis using descriptive statistics in the form of percentages and mean scores. The final stage involved drawing conclusions based on the results of data analysis and preparing the research report (Creswell & Creswell, 2023).

Result

Based on the results of observations, in-depth interviews, and documentation, the field findings indicate that the educational leadership of the principal at SD Muhammadiyah Program Khusus Banyudono plays a significant role in improving the quality of learning through the strengthening of teacher-student interactions and the creation of a conducive classroom climate. From the context component, the principal's leadership policies and practices are well aligned with the school's vision and mission, which emphasize academic excellence, character development, and active learning. In the input component, teacher competence, the availability of supporting facilities, and the principal's commitment to

teachers' professional development are categorized as good and effectively support the implementation of quality learning. From the process perspective, the principal actively conducts academic supervision, provides exemplary leadership, and promotes positive communication and collaboration between teachers and students, thereby fostering an interactive and participatory classroom climate. Meanwhile, in the product component, this educational leadership contributes to improved learning quality, as reflected in increased student engagement, a more conducive classroom environment, and positive improvements in students' learning outcomes and learning attitudes..

1. Context Evaluation

Context evaluation was conducted to assess the alignment of the principal's educational leadership with the school's vision, mission, objectives, and learning needs at Muhammadiyah Special Program Elementary School Banyudono. The assessment was based on respondents' perceptions and the results of academic observations.

Table 1. Scores of Context Evaluation Components

No	Context Components	Score (%)	Category
1	Alignment of the school's vision and mission	86.7	Very Good
2	Principal's policy support for learning	84.3	Good
3	School culture supporting learning quality	83.5	Good
4	Leadership commitment to quality improvement	87.1	Very Good
Average		85.4	Very Good

The average score of 85.4% indicates that the context of the principal's educational leadership falls within the very good category. The school's vision and mission are well understood and translated into learning policies that support academic quality and Islamic values. A conducive school culture strengthens leadership direction as a foundation for improving learning quality (Hallinger, 2021, pp. 4–6).

2. Input Evaluation

Input evaluation assessed the readiness of human resources and learning support facilities managed through the principal's educational leadership.

Table 2. Scores of Input Evaluation Components

No	Input Components	Score (%)	Category
1	Teachers' pedagogical competence	82.6	Good
2	Teachers' readiness for instructional interaction	83.2	Good
3	Learning facilities and infrastructure	80.9	Good
4	Principal's support for teacher professional development	85.1	Very Good
Average		83.0	Good

The average score of 83.0% indicates that learning inputs are in the good category. The principal plays an active role in teachers' professional development through academic

supervision and training. Learning facilities support interactive instruction, although further strengthening is required in the utilization of educational technology (Leithwood et al., 2020).

3. Process Evaluation

Process evaluation focused on the implementation of learning, particularly teacher interaction and the classroom climate formed during the teaching and learning process.

Table 3. Scores of Process Evaluation Components

No	Process Components	Score (%)	Category
1	Quality of teacher–student interaction	82.7	Good
2	Clarity of instructional communication	83.9	Good
3	Safe and conducive classroom climate	84.1	Good
4	Students’ active participation	81.8	Good
Average		83.1	Good

The average score of 83.1% indicates that the learning process is implemented effectively. Teacher–student interactions are communicative and responsive. A positive classroom climate creates psychological comfort and enhances student participation. The principal’s educational leadership is reflected in consistent supervision and guidance of classroom instructional practices (Pianta et al., 2020, pp. 46–48; Wang & Degol, 2021).

4. Product Evaluation

Product evaluation was used to assess the outcomes of the implementation of the principal’s educational leadership in relation to learning quality.

Table 4. Scores of Product Evaluation Components

No	Product Components	Score (%)	Category
1	Improvement in learning quality	84.5	Good
2	Student satisfaction with learning	82.9	Good
3	Achievement of learning objectives	84.3	Good
Average		83.9	Good

The average score of 83.9% indicates that learning quality is in the good category. This result reflects a strong interrelationship between the principal’s educational leadership, the quality of teacher interaction, and classroom climate in producing effective and meaningful learning (Creswell & Creswell, 2023).

5. Recapitulation of CIPP Evaluation Results

Table 5. Recapitulation of CIPP Evaluation Results

CIPP Component	Average Score (%)	Category
Context	85.4	Very Good
Input	83.0	Good
Process	83.1	Good
Product	83.9	Good

The recapitulation shows that the context component achieved the highest score, indicating the strength of the principal's educational leadership in aspects of vision, policy, and school culture.

Discussion

The findings confirm that the principal's educational leadership plays a strategic role in improving learning quality. The high context score indicates that school leadership is aligned with the school's vision and needs, supporting Hallinger's (2021), emphasis on the importance of instructional leadership in building a learning culture. The good input and process scores indicate that teacher development and the creation of a conducive classroom climate are key supporting factors for learning quality, consistent with the findings of Pianta et al. (2020). The good product score demonstrates that learning quality is an outcome of leadership oriented toward pedagogical practices and the strengthening of teacher interaction and classroom climate (Leithwood et al., 2020).

This study presents field findings on the implementation of the principal's educational leadership in improving learning quality through teacher interaction and classroom climate at Muhammadiyah Special Program Elementary School Banyudono, based on the four main components of the CIPP evaluation model (Context, Input, Process, Product). The research data were obtained through observations, in-depth interviews, and documentation, which were systematically conducted throughout 2025.

The findings indicate that, in terms of the context component, the principal's leadership is aligned with the school's vision, mission, and educational goals and is responsive to learning needs. In the input component, the availability of human resources and learning support facilities is categorized as good; however, further strengthening is required in enhancing teachers' professional competence and optimizing the utilization of learning facilities. In the process component, the implementation of learning is effective, as reflected in communicative teacher-student interactions and the establishment of a conducive classroom climate. In the product component, the principal's educational leadership has a positive impact on improving learning quality and achieving instructional objectives.

Overall, the results show that the implementation of the principal's educational leadership at Muhammadiyah Special Program Elementary School Banyudono is well organized and operates effectively. These findings emphasize the strategic role of the principal's leadership in fostering high-quality teacher interaction and a supportive classroom climate. Nevertheless, several aspects, particularly the strengthening of human resources and learning support facilities, still require further attention and development to ensure sustainable improvement in learning quality.

Overall, the results show that the implementation of the principal's educational leadership at Muhammadiyah Special Program Elementary School Banyudono is well organized and operates effectively. These findings emphasize the strategic role of the principal's leadership in fostering high-quality teacher interaction and a supportive classroom climate. Nevertheless, several aspects, particularly the strengthening of human resources and learning support facilities, still require further attention and development to ensure sustainable improvement in learning quality.

The evaluation findings indicate that the principal has successfully established a clear educational vision that guides the implementation of teaching and learning activities throughout the school. Through effective coordination, supervision, and communication, the principal has created an environment that encourages collaboration among teachers and promotes continuous professional growth. This leadership approach has contributed to maintaining consistency in educational practices and supporting the achievement of institutional goals.

The implementation of educational leadership is also reflected in the principal's commitment to improving instructional quality through regular monitoring and evaluation. Constructive feedback, mentoring, and opportunities for professional development enable teachers to enhance their pedagogical competencies and adopt more effective teaching strategies. As a result, the learning process becomes more engaging, student-centered, and responsive to learners' needs.

Despite these positive achievements, the evaluation also highlights several areas requiring further improvement. The development of human resources should remain a priority through sustained professional training, capacity-building programs, and collaborative learning communities. In addition, improving learning support facilities, including instructional media and educational technology, would provide teachers and students with greater opportunities to achieve optimal learning outcomes.

The findings further suggest that strong educational leadership contributes to the establishment of a positive school culture characterized by mutual trust, collaboration, and shared responsibility. Such a culture not only strengthens teacher performance but also enhances students' motivation, engagement, and academic success. A supportive organizational climate enables all members of the school community to work toward common educational objectives.

In conclusion, the principal's educational leadership has played a significant role in promoting effective school management and improving the overall quality of learning. While the current implementation demonstrates strong performance, continuous efforts to strengthen leadership capacity, develop human resources, and improve educational facilities will be essential for sustaining long-term educational excellence and responding to future challenges.

Conclusion

The findings indicate that the principal's educational leadership at Muhammadiyah Special Program Elementary School Banyudono is categorized as very good in the context aspect and good in the input, process, and product aspects. The principal's leadership is able to establish clear learning policy directions, enhance teacher readiness, strengthen teacher interaction and classroom climate, and produce effective learning quality.

Based on the results of data analysis across the four components of the CIPP evaluation model, an overall average score of 82.4% was obtained, which falls within the good category. This score indicates that the principal's educational leadership plays a significant role in enhancing the quality of learning through the strengthening of teacher-student interactions and the creation of a conducive classroom climate.

Findings in the context component reveal that the principal's educational leadership is well aligned with the school's vision, mission, and educational objectives. The principal is able to formulate learning policies that are responsive to students' needs and to the characteristics of the school, which are grounded in Islamic values. The school environment supports the development of a conducive academic climate through a culture of discipline, collaboration, and leadership by example. The analysis indicates that the clarity of leadership direction contributes to the consistency of instructional implementation and reinforces teachers' roles in fostering effective educational interactions in the classroom.

In the input component, the findings show that the availability of human resources, particularly teachers, is at an adequate level. Teachers possess relevant educational backgrounds and demonstrate a strong commitment to improving the quality of instruction. Learning facilities and infrastructure are available and can be utilized to support the teaching and learning process. However, data analysis suggests that further enhancement of teachers' pedagogical and professional competencies is still required through continuous professional development programs. Optimizing the use of instructional media and educational technology also remains an area that needs strengthening to support more varied and interactive learning experiences.

Findings in the process component indicate that the principal's educational leadership is reflected in academic supervision, teacher mentoring, and the creation of a collaborative working atmosphere. Teacher-student interactions are conducted in a communicative, dialogic, and participatory manner. The classroom climate is formed positively, characterized by a learning environment that is safe, orderly, and supportive of active student engagement.

In the product component, the findings demonstrate an improvement in the quality of learning, as evidenced by the achievement of learning objectives, increased student participation, and more stable learning outcomes. Teachers are able to manage classrooms effectively and adapt instructional strategies to students' conditions and needs. The analysis indicates that the principal's educational leadership has a positive impact on learning

outcomes through the strengthening of teacher interactions and the development of a classroom climate that supports meaningful learning processes.

Overall, the implementation of the principal's educational leadership at SD Muhammadiyah Program Khusus Banyudono is categorized as good, with primary strengths in the context and process components. The input and product components also show positive achievements while providing opportunities for further development through the enhancement of teacher competencies and the optimization of learning facilities. These findings affirm that the principal's educational leadership is a strategic factor in building sustainable learning quality through effective teacher interactions and a conducive classroom climate.

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