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Pedagogical Leadership of the Principal at SMP Negeri 1 Banggai and SMP Negeri Satap Tolokibit

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Abstract

Schools with complete facilities and those with limited resources face distinct challenges in implementing pedagogical leadership, thereby requiring adaptive and context-sensitive strategies. This study aims to analyze the principal's pedagogical leadership in: (1) developing teachers' pedagogical competence, (2) improving teachers' professional competence, and (3) building a culture of teacher learning. The research was conducted at SMP Negeri 1 Banggai and SMP Negeri Satap Tolokibit using a descriptive qualitative approach. Data were collected through observation, interviews, and documentation and analyzed using a comparative analysis model. The findings reveal that pedagogical leadership in both schools contributes to strengthening teachers' confidence in managing learning, encouraging greater reflectiveness, and fostering openness to instructional improvement. Although the principals in both schools share similar orientations and goals, their leadership is enacted through different strategies shaped by each school's context. In addition, principal leadership plays a strategic role in enhancing teachers' professional competence by reinforcing motivation, supporting contextual continuing professional development, and promoting collective learning. The study further shows that the principals' pedagogical leadership successfully cultivates

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a culture of teacher learning through different yet complementary strategies aligned with the characteristics and conditions of each school. These findings underscore that effective pedagogical leadership is not uniform in practice but must be contextually adapted to strengthen teacher competence and sustain a culture of professional learning across diverse school settings.

Keywords: Pedagogical Leadership; Pedagogical Competence; Professional Competence; Teacher Learning Culture; School Context

INTRODUCTION

The transformation of the principal's role in the 21st century has expanded beyond mere administrative and managerial functions. The global educational reform framework, particularly within the Merdeka Belajar policy landscape in Indonesia, positions the principal as a visionary instructional leader, responsible for fostering meaningful learning, strengthening the teacher professional community, and building a quality-oriented school culture (Wuni, 2026). This paradigm shift emphasizes the importance of pedagogical leadership as a distinctive and purposeful form of school leadership.

Pedagogical leadership, as conceptualized by Walker & Hallinger (2015), refers to the principal's systematic efforts to improve the quality of teacher instruction and student learning outcomes through the articulation of a shared learning vision, academic supervision, and ongoing teacher capacity development. Fullan (2014) reinforces this perspective by asserting that all managerial and policy decisions within a school must culminate in strengthening the quality of learning. Expanding on these foundational ideas, Leithwood et al., (2020) emphasize the principal's role in building teacher capacity and creating conditions for continuous professional growth.

Despite the extensive research on principal leadership, empirical studies explicitly examining pedagogical leadership in geographically and contextually diverse school contexts remain relatively limited in the international literature, particularly in the Indonesian archipelago (Asmara et al., 2023; Resthiana et al., 2025) Banggai Laut Regency, an archipelago in Central Sulawesi, presents a heterogeneous educational landscape, characterized by significant disparities in resource availability, infrastructure, and teacher access to professional development opportunities.

Pedagogical leadership is a construct that synthesizes key dimensions of instructional, transformational, and distributional leadership theories. Essentially, pedagogical leadership positions the principal as a "leader of learning," not simply an organizational manager (Abera et al., 2026). This orientation requires the principal to exert a sustained and intentional influence on the quality of teaching and learning, both directly and indirectly.

Fonsén & Lahtero (2023) characterize pedagogical leadership as a dynamic process of meaning creation and value clarification that permeates all organizational decisions within the school. The instructional leadership dimension proposed by Abera et al., (2026) emphasizes the principal's role in defining the school's learning mission, managing instructional programs, and fostering a positive school learning climate. The transformational dimension, as outlined by Bass & Riggio (2010) emphasizes the principal's capacity to inspire a shared vision, stimulate intellectual growth, and provide individualized support to teachers. Meanwhile, the distributional leadership perspective by Harris & Jones (2019) recognizes that effective pedagogical leadership is collaborative and shared among various school actors.

Teacher competence encompasses two interrelated dimensions: pedagogical competence and professional competence. Pedagogical competence refers to a teacher's ability to understand student characteristics, design and implement responsive learning plans, and conduct ongoing learning evaluations (Cahyana & Agustin, 2024). Professional competence relates to teachers' mastery of subject matter, their ability to develop learning tools, and the integration of innovation and technology into the learning process (Darling-Hammond et al., 2017).

Research consistently shows that principals who exercise pedagogical leadership through academic supervision, instructional coaching, and facilitating professional development contribute significantly to improving both pedagogical and professional teacher competence (Abera et al., 2026; He et al., 2024; Pietsch et al., 2025). Reflective and dialogic supervision, as opposed to evaluative supervision, has been shown to be more effective in fostering teacher autonomy and self-regulated professional growth (Zepeda, 2013).

A teacher learning culture refers to a shared set of norms, values, and collaborative practices within a school that support continuous professional growth and collective

problem-solving. Schein, (2010) asserts that organizational culture is not formed solely through formal mandates but rather develops from lived practices, shared values, and relational interactions among organizational members. Nguyen, (2021) introduces the concept of "psychological safety" as a fundamental condition that allows individuals to learn, experiment, and reflect on mistakes without fear a condition highly relevant to teacher professional learning.

Wisnurat & Wasliman (2025) emphasize that Professional Learning Communities (PLCs) do not have to be formal to be effective; they can instead grow through meaningful, everyday collegial interactions. Hargreaves (2021) also argues that a collaborative professional culture can develop through both formal and informal channels, with the principal's behavior playing a crucial mediating role.

This study fills this gap by conducting a comparative, multi-site qualitative investigation of pedagogical leadership in two structurally distinct junior high schools: SMP Negeri 1 Banggai, an urban school with relatively adequate educational resources, and SMP Satap Tolokibit, a rural one-roof school characterized by significant resource and infrastructure limitations. The study aims to generate context-sensitive and theoretically grounded insights into how pedagogical leadership operates across diverse school contexts and the conditions under which it positively impacts teacher competency and the institution's learning culture.

This study offers a new model of understanding adaptive pedagogical leadership based on school context, which shows that the principal's leadership in improving the quality of learning and teacher competence is largely determined by the ability to adapt strategies to local school conditions. Based on this description, the sub-focus of this study includes: 1) pedagogical leadership in developing teacher pedagogical competence; 2) principal pedagogical leadership in improving teacher professional competence; and 3) pedagogical leadership encouraging the formation of a collective teacher learning culture at both school sites.

METHODS

This study employed a qualitative approach using a multiple-site case study. This approach was chosen because it provides an in-depth understanding of the phenomenon of principals' pedagogical leadership in different contexts. The multi-site case study enabled

researchers to comprehensively explore pedagogical leadership practices in two junior high schools with contrasting characteristics: SMP Negeri 1 Banggai, located in an urban area, and SMP Satap Tolokibit, located in a rural area. The differences in the schools' social, cultural, and environmental contexts are expected to provide a richer picture of the variations in the application of pedagogical leadership.

The research participants consisted of the principal, the vice principal for curriculum, and subject teachers at both schools. The principal served as key informants because they have authority in planning and implementing pedagogical leadership, while the teachers and vice principal served as supporting informants who directly experienced the leadership practices. The sampling technique used was maximum variation sampling, which selects participants and research sites based on varying characteristics to obtain rich and diverse perspectives on the phenomenon under study. The selection of two schools with different facilities, geographic locations, and resources was intended to capture variations in the implementation of pedagogical leadership contextually. Data collection was conducted through three main techniques: in-depth interviews, participant observation, and documentation studies. To ensure data validity, method and source triangulation, along with member checking, were used with informants.

Data analysis employed the interactive model of Huberman & Miles (2002) which encompasses three cycle stages: 1) Data reduction: selecting, simplifying, and grouping data according to the research focus; 2) Data presentation: organizing data in narrative form, matrices, and comparative tables across sites to identify patterns and variations; and 3) Conclusion drawing and verification: formulating research findings and verifying them through triangulation and cross-checking. The research was conducted over three months, from October to December 2025. The research stages included preparation, gradual data collection at both sites, data analysis, and preparation of the research report.

RESULTS

Based on the research data on principals' pedagogical leadership in improving the quality of learning, several key findings were obtained, including: a) pedagogical leadership in developing teachers' pedagogical competence; b) principals' pedagogical leadership in improving teachers' professional competence; and c) pedagogical leadership fostering a culture of collective teacher learning at both school sites.

1. Principal Leadership in Developing Teachers' Pedagogical Competence

Cross-site findings indicate that at both schools, principals' pedagogical leadership is understood as leadership directly oriented toward improving the quality of learning. At both SMP Negeri 1 Banggai and SMP Negeri Satap Tolokibit, the principals prioritize teacher development in their leadership roles. The main similarity across the two sites lies in the principals' direct involvement in the teacher learning process. The principals act not only as administrators but also as academic mentors, actively assisting teachers in the planning, implementation, and evaluation of learning. This demonstrates that pedagogical leadership is implemented substantively, not symbolically.

However, there are differences in pedagogical leadership approaches influenced by the school context. At SMP Negeri 1 Banggai, pedagogical leadership is implemented more systematically and structured through curriculum meetings, scheduled academic supervision, and formal review of learning materials. In contrast, at SMP Negeri Satap Tolokibit, pedagogical leadership is more flexible, informal, and contextual. This difference demonstrates that pedagogical leadership is adaptive to school conditions. In schools with relatively adequate resources, such as SMP Negeri 1 Banggai, pedagogical guidance can be implemented through formal mechanisms. Meanwhile, in satap schools with limited resources, a personal and dialogical approach is a more effective strategy.

At both sites, fostering lesson planning is the primary focus of pedagogical leadership. The principal encourages teachers to develop lesson plans or teaching modules relevant to student characteristics. However, the emphasis on administrative aspects is more pronounced at SMP Negeri 1 Banggai than at SMP Satap Tolokibit, which places greater emphasis on learning implementation. Academic supervision at both schools is used as a means to develop teachers' pedagogical competencies. The similarities lie in the dialogic and reflective approach to supervision. Principals at both sites view supervision not solely as an assessment tool, but as a learning process for teachers.

The difference is that supervision at SMP Negeri 1 Banggai is more scheduled and documented, while at SMP Satap Tolokibit, supervision is incidental and informal. Nevertheless, both approaches are equally effective because they are tailored to the context and needs of teachers. Cross-site findings also indicate that pedagogical leadership at both schools has increased teacher confidence in managing learning. Teachers become more reflective and open to learning improvements. Thus, cross-site findings indicate that the

pedagogical leadership of principals at both schools shares a similar orientation and goals, but is realized through different strategies according to the context of each school.

2. Principal Leadership in Improving Teacher Professional Competence

Cross-site findings indicate that principal leadership at both schools plays a crucial role in maintaining and improving teacher professional competence. At both sites, principals instilled an awareness that teacher professional development is a shared responsibility between individual teachers and the school institution. A key similarity lies in the principal's role as a professional motivator. Principals at both schools actively encouraged teachers to continue learning and developing, both through formal training and independent learning. Moral motivation and psychological support were key strategies in professional leadership.

However, there were significant differences in the form of ongoing professional development support provided. At SMP Negeri 1 Banggai, ongoing professional development support was relatively more facilitated through training, workshops, Subject Teacher Conference, and more accessible professional development activities. Meanwhile, at SMP Negeri Satap Tolokibit, ongoing professional development support was more adaptive through permission, time management, and the use of online Subject Teacher Conference and alternative learning resources. These differences demonstrate that teacher professional leadership is contextual. Principals at each school adapted their professional development strategies to suit existing opportunities and limitations, without compromising the essence of teacher professional development.

At both sites, knowledge sharing among teachers was a crucial strategy for enhancing professional competence. Teachers who had received training or gained specific experience were encouraged to disseminate this knowledge to their colleagues. However, the intensity and patterns of dissemination varied. At SMP Negeri 1 Banggai, dissemination took place through formal forums and scheduled academic discussions, while at SMP Satap Tolokibit, dissemination took place informally through daily discussions.

Cross-site findings also indicated that principal leadership contributed to building a professional ethos for teachers. Teachers at both schools demonstrated a commitment to continuously improving instructional practices despite facing different challenges. Thus, cross-site findings confirm that principal leadership plays a strategic role in enhancing

teacher professional competence through strengthening motivation, supporting contextualized ongoing professional development, and fostering collective learning.

3. Principals' Pedagogical Leadership in Building a Teacher Learning Culture

Cross-site findings indicate that the principals' pedagogical leadership at both schools successfully built a teacher learning culture, albeit with different characteristics. In both schools, the teacher learning culture was not built solely through formal instruction, but through role models and daily interactions. The main similarity lies in the creation of an academic climate that supports teacher learning. Principals at both sites strive to create a safe, open, and respectful atmosphere for teachers' learning processes, including addressing learning errors.

The teacher learning culture at both schools is characterized by discussions and sharing experiences. Teachers are encouraged to learn from each other's learning practices. Discussions serve as the primary means of collective teacher learning. The difference is that the learning culture at SMP Negeri 1 Banggai is more structured through formal forums, teacher learning communities, and academic meetings. Meanwhile, the learning culture at SMP Satap Tolokibit develops through a family-like approach and natural, informal discussions.

The principal at SMP Negeri 1 Banggai plays a role in directing and reinforcing the learning culture through school policies and programs. On the other hand, the principal at SMP Satap Tolokibit plays a more facilitative role, fostering togetherness and solidarity among teachers. Cross-site observations indicate that interactions between teachers at both schools reflect a positive learning culture. Teachers help each other prepare lessons and resolve pedagogical issues.

Cross-site findings also indicate that the teacher learning culture contributes to improved professionalism and the quality of learning. Teachers become more reflective, open to innovation, and committed to continuous learning. Thus, cross-site findings indicate that the pedagogical leadership of the principals at both schools successfully fostered a learning culture for teachers through different but complementary strategies, tailored to the context and characteristics of each school.

Furthermore, parental support for the use of learning technology varies. Some parents are supportive, while others remain concerned about the negative impacts of technology, particularly student use of devices. This presents an external challenge that

needs to be managed through ongoing communication and outreach. Other identified threats include the student digital divide, limited resources, curriculum burden, and risks to student data security and privacy. These factors have the potential to hinder the implementation of deep learning if not anticipated with appropriate policies and strategies.

Table 1. Cross-Site Findings at SMP Negeri 1 Banggai and SMP Negeri Satap Tolokibit

Focus	SMP Negeri 1 Banggai	SMP Negeri Satap Tolokibit	Cross-Site Findings
The principal's strategy in developing teachers' pedagogical competence	Oriented towards improving the quality of learning through systematic and structured coaching	Oriented towards improving the quality of learning through contextual and adaptive mentoring	Pedagogical leadership in both schools is directly oriented towards improving the quality of learning
	The principal acts as both administrator and academic advisor	The principal acts as a personal companion and academic mentor	The principals at both schools not only play an administrative role, but are directly involved in developing learning
	Implemented through curriculum meetings, review of Learning Implementation Plans/Teaching Modules, and formal mechanisms	Implemented in a simple, realistic manner, and adapted to student conditions and facilities	Guidance on learning planning is the main focus of pedagogical leadership at both sites
	Scheduled, documented, and carried out systematically	Flexible, incidental, and informal	Academic supervision in both schools is dialogic and reflective, although the implementation patterns differ
	Formal, structural, and system-based	Personal, dialogic, and contextual	Pedagogical leadership is adaptive to the school context and conditions
	Teachers are more confident and reflective in managing learning	Teachers are more open and comfortable in improving learning practices	Pedagogical leadership has an impact on improving the pedagogical competence of teachers in both schools
The principal's strategy in developing teacher professional competency	Professionalism is developed through formal training and activities	Professionalism is developed through motivation, independence, and alternative learning	Principals at both sites instill an awareness that professionalism is a shared responsibility
	Acting as a motivator and facilitator of ongoing professional development activities	Acting as a motivator and morale booster for teachers	The principal acts as the primary motivator for teacher professional development

	Training, workshops, Subject Teacher Conferences, and professional development activities are more accessible	Permissions, timetables, online Subject Teacher Conferences, and alternative learning resources are available	Continuing professional development support is contextualized according to school opportunities and limitations
	Based on formal activities and school programs	Based on adaptation, self-learning, and experience sharing	Teachers' professional leadership adapts to the real-world conditions of the school
	Conducted through formal forums and scheduled academic discussions	Conducted formally and informally through daily and scheduled discussions	Knowledge sharing practices are a key strategy at both schools
	Teachers demonstrate a strong professional ethos and are open to innovation	Teachers remain motivated despite limited formal training	Principal leadership contributes to maintaining teachers' professional competence
The principal's efforts in building a culture of teacher learning	Structured through learning communities, academic meetings, and school programs	Grown naturally through a family-like and collaborative approach	Teachers' learning culture is built sustainably at both schools
	As a director, policy enforcer, and driver of a learning culture	As a facilitator, learning partner, and glue for togetherness	The principal plays a central role in building a learning culture for teachers
	Formal and scheduled academic discussions	Informal discussions and daily collaboration	Discussion and sharing of experiences characterize the learning culture at both schools
	Open, conducive, and system-based	Safe, supportive, and relationship-based	The principal creates an academic climate that supports teacher learning
	Structurally organized and facilitated	Spontaneous and solidarity-based	Collaboration is the main capital of teachers' learning culture
	Teachers are more reflective and professional	Teachers are more confident and motivated to learn	A learning culture contributes to increased professionalism and the quality of learning

Based on Table 1, the cross-site analysis shows that the principal leadership at SMP Negeri 1 Banggai and SMP Negeri Satap Tolokibit is equally oriented toward improving the quality of learning through teacher competency development, although using different approaches depending on the school context. In developing pedagogical competency, SMP Negeri 1 Banggai applies systematic and formal coaching, while SMP Negeri Satap Tolokibit uses a contextual and flexible approach. However, in both schools, the principal is directly involved in coaching, so that supervision is dialogic and impacts teacher teaching skills.

In developing professional competency, the principal plays the role of the primary motivator. SMP Negeri 1 Banggai emphasizes formal activities such as training and workshops, while SMP Negeri Satap Tolokibit emphasizes motivation, independent learning, and sharing experiences. Professional development support at both schools is tailored to each school's specific circumstances. Efforts to build a culture of teacher learning also show different patterns but share similar goals. SMP Negeri 1 Banggai achieves this through structured programs and learning communities, while SMP Negeri Satap Tolokibit utilizes a family-like and collaborative approach. Overall, adaptive leadership in both schools has been shown to improve teacher competency and the quality of learning.

DISCUSSION

Analysis of Research Findings

1. Principals' Pedagogical Leadership in Developing Teachers' Pedagogical Competence

Cross-site findings indicate that the pedagogical leadership of principals at SMP Negeri 1 Banggai and SMP Satap Tolokibit is directly oriented toward improving the quality of learning. Principals at both schools define pedagogical leadership as leadership that directly impacts teachers' learning practices. This finding aligns with the view of Urick et al., (2022) who assert that pedagogical leadership (instructional leadership) focuses on the principal's systematic efforts to influence the quality of learning through teacher coaching.

The principal's direct involvement in the planning, implementation, and evaluation of learning, as found at both sites, reinforces the concept of substantive pedagogical leadership. According to Harris & Jones (2019), effective leadership does not stop at policy formulation but is reflected in the leader's concrete involvement in the school's core process, namely learning. The findings of this study indicate that principals not only perform administrative functions but also act as academic mentors who continuously mentor teachers.

The differences in approach between SMP Negeri 1 Banggai and SMP Satap Tolokibit demonstrate the adaptive nature of pedagogical leadership. At SMP Negeri 1 Banggai, pedagogical leadership is implemented through formal mechanisms such as curriculum meetings, scheduled academic supervision, and learning tool reviews. This pattern aligns with Bush (2007) findings, which state that schools with relatively adequate resources tend to develop pedagogical leadership based on formal systems and procedures. In contrast, pedagogical leadership at SMP Satap Tolokibit is more flexible, informal, and contextual. These findings support Robinson, (2017) view, which emphasizes that the effectiveness of pedagogical leadership depends heavily on the principal's ability to adapt the approach to the school's context and needs. In the context of a satap school with limited resources and a limited number of teachers, a personal and dialogical approach has proven more effective than a rigid administrative approach.

The focus on developing lesson planning at both sites also reinforces the theory that the quality of learning is largely determined by the quality of teacher planning. Darling-Hammond et al., (2017) asserted that contextual and responsive lesson planning to student needs is at the core of teacher pedagogical competence. The findings of this study indicate that principals encourage teachers to develop relevant lesson plans or teaching modules, despite varying administrative pressures at each school. Dialogic and reflective academic supervision in both schools aligns with modern supervisory approaches. According to Zepeda (2013), effective academic supervision facilitates teacher reflection, rather than simply assessing performance. At both SMP Negeri 1 Banggai and SMP Negeri Satap Tolokibit, supervision is positioned as a learning tool for teachers, thus encouraging openness and receptivity to feedback.

The differences in scheduled and documented supervision patterns at SMP Negeri 1 Banggai and incidental and informal supervision at SMP Negeri Satap Tolokibit

demonstrate the flexibility of pedagogical leadership implementation. This reinforces the findings of Day & Gurr (2024) that there is no single, correct supervision model, but rather the model that best suits the school context and teacher characteristics. The impact of pedagogical leadership on increasing teacher self-confidence is also relevant to the concept of teacher efficacy. According to Windlinger et al., (2020), consistent leadership support can improve teacher efficacy, which ultimately impacts the quality of learning. Teachers at both schools became more reflective and open to learning improvements. Thus, this discussion confirms that effective pedagogical leadership is not determined by a uniform strategy, but by the appropriateness of the approach to the school context. The findings of this study reinforce the theory of adaptive pedagogical leadership, which positions the principal as a learning agent responsive to the needs of teachers and students.

Based on cross-site findings, it can be concluded that the pedagogical leadership of the principals at SMP Negeri 1 Banggai and SMP Satap Tolokibit is equally oriented toward improving the quality of learning through direct involvement in teacher learning practices. The principals not only perform administrative functions but also act as academic mentors, actively involved in the planning, implementation, and evaluation of learning, thus substantively realizing pedagogical leadership.

The differences in approaches implemented at the two schools indicate that pedagogical leadership is adaptive to the school context. SMP Negeri 1 Banggai tends to use formal and structured mechanisms through scheduled supervision, curriculum meetings, and learning tool reviews, while SMP Satap Tolokibit applies a more flexible, informal, and dialogical approach in accordance with resource constraints. Despite the differences, both approaches have proven effective in fostering lesson planning, implementing reflective academic supervision, and increasing teacher confidence and efficacy.

Thus, effective pedagogical leadership is not determined by a uniform strategy, but rather by the principal's ability to adapt the approach to teacher needs, school characteristics, and environmental conditions. Adaptive pedagogical leadership focused on teacher learning and empowerment has been proven to drive improvements in the quality of learning at both schools.

2. Principal Leadership in Improving Teacher Professional Competence

Cross-site findings indicate that principals at both schools play a strategic role in improving teacher professional competence. Principals instill an awareness that teacher professional development is a shared responsibility. These findings align with the concept of professional learning leadership proposed by Darling-Hammond et al., (2017), which emphasizes the role of school leaders in building a system of teacher professional learning. The principal's role as a professional motivator in both schools reinforces the theory of transformational leadership in the educational context. According to Bass & Riggio (2010), transformational leaders are able to foster intrinsic motivation through moral support and a shared vision. The research findings indicate that motivation and psychological support are the principal's primary strategies in maintaining teacher professionalism.

The differences in the forms of continuous professional development support between the two schools reflect contextual leadership. SMP Negeri 1 Banggai has broader access to formal training, while SMP Satap Tolokibit develops alternative strategies such as online Subject Teacher Conferences and independent learning. This aligns with the findings of Boeskens et al., (2020) who stated that teacher professional development needs to be tailored to the local context and resource availability. The practice of knowledge sharing among teachers at both sites supports the concept of a professional learning community (PLC). According to Olmo-Extremera et al., (2025), effective PLCs do not always have to be formal, but can grow through meaningful daily interactions. Research findings indicate that knowledge dissemination takes place formally at SMP Negeri 1 Banggai and informally at SMP Negeri Satap Tolokibit, but both contribute to improving teachers' professional competence.

Principal leadership that encourages collective learning also contributes to the development of teachers' professional ethos. Teachers demonstrate a commitment to continuous learning despite facing diverse challenges. This finding supports research by Harris & Jones (2019) which asserts that school leadership strongly influences professional culture and teacher commitment. Therefore, this discussion demonstrates that principal leadership in improving teacher professional competence is flexible and adaptive, yet still oriented toward strengthening teacher motivation, continuous learning, and collaboration.

Based on cross-site findings, it can be concluded that principals at both schools play a strategic role in improving teacher professional competence through leadership

oriented toward continuous professional learning. Principals instill an awareness that professional development is a shared responsibility and act as motivators, providing moral and psychological support to maintain teachers' professional spirit.

The differences in the forms of continuous professional development support at the two schools indicate that principal leadership is contextual and adaptable to resource availability. SMP Negeri 1 Banggai utilizes formal training and broader access, while SMP Satap Tolokibit develops alternative strategies through online Subject Teacher Conferences, independent learning, and internal collaboration. Despite their different approaches, both are effective in encouraging knowledge sharing and collective teacher learning.

Principal leadership that fosters collaboration and professional learning communities has been shown to contribute to the formation of a professional ethos, a commitment to continuous learning, and improved teacher competency. Therefore, flexible, adaptive leadership focused on motivation and collaboration is key to improving teacher professional competency in both schools.

3. Principal Pedagogical Leadership in Building a Teacher Learning Culture

Cross-site findings indicate that the principal's pedagogical leadership successfully built a teacher learning culture in both schools. This learning culture is not built solely through formal instruction, but rather through role modeling and daily interactions. This aligns with Schein (2010), theory of school organizational culture, which states that culture is formed through shared practices and values. The creation of a safe and supportive academic climate in both schools supports the concept of psychological safety in professional learning. According to Nguyen (2021), a psychologically safe environment allows individuals to learn, experiment, and reflect on mistakes without fear. Research findings indicate that teachers feel valued and supported to continue learning.

The differences in the learning culture characteristics between the two schools demonstrate varying leadership strategies. The learning culture at SMP Negeri 1 Banggai is structured, while at SMP Satap Tolokibit, the learning culture is fostered through a family-like approach. This finding aligns with research by Hargreaves (2021) which states that a collaborative culture can develop through both formal and informal channels. The principal's role as a director of the learning culture at SMP Negeri 1 Banggai and as a facilitator at SMP Satap Tolokibit demonstrates varying leadership roles. However, both are equally effective in fostering teacher collaboration and reflection. This confirms that

pedagogical leadership is not a singular concept but rather contextual and dynamic. The resulting teacher learning culture contributes to improved professionalism and the quality of learning. Teachers become more reflective and open to innovation. This finding reinforces Fullan (2020) view that a strong learning culture is the primary foundation for sustainable improvement in educational quality.

Based on cross-site findings, it can be concluded that the pedagogical leadership of principals at both schools is effective in building a teacher learning culture that supports improved professionalism and the quality of learning. This learning culture is not formed solely through formal instruction, but rather through role models, daily interactions, and the creation of a safe and supportive academic climate, so that teachers feel valued and encouraged to continue learning.

The differences in the characteristics of the learning cultures in the two schools demonstrate that the formation of a learning culture is contextual. SMP Negeri 1 Banggai develops a structured learning culture through formal mechanisms, while SMP Satap Tolokibit fosters a learning culture through a more informal and dialogical family approach. Despite their different strategies, both have proven effective in encouraging teacher collaboration, reflection, and openness to learning innovation.

Thus, adaptive and responsive pedagogical leadership to the school context can build a strong teacher learning culture as a foundation for sustainable improvement in educational quality. The resulting learning culture makes teachers more reflective, collaborative, and committed to ongoing professional development.

Literature Comparison

The findings of this study indicate that the principal's pedagogical leadership plays a significant role in developing teachers' pedagogical and professional competencies and fostering a culture of teacher learning. These results are consistent with the educational leadership literature, which emphasizes that instructional leadership directly influences the quality of learning through teacher development and strengthening pedagogical practices. This research reinforces the view that the principal's direct involvement in the planning, implementation, and evaluation of learning is a key indicator of substantive pedagogical leadership.

However, this study also extends the literature by demonstrating that the implementation of pedagogical leadership is contextual and adaptive. Previous literature

tends to emphasize systematic and structured leadership models, particularly in schools with adequate resources. The findings at SMP Negeri 1 Banggai support this perspective through scheduled supervision practices and formal mechanisms. Conversely, the findings at SMP Satap Tolokibit indicate that informal, dialogical, and relationship-based approaches are also effective in school contexts with limited resources. Thus, this research strengthens the theory of adaptive pedagogical leadership, which emphasizes the appropriateness of strategies to school conditions.

In terms of improving teacher professional competence, the results of this study align with the concepts of continuous professional learning and professional learning communities (PLCs), which emphasize the importance of collaboration and sharing good practices. However, this study demonstrates that PLCs do not always have to be formal. In schools with limited access to training, learning communities can develop through informal interactions and self-directed learning. These findings complement the literature, which has previously focused primarily on formal PLCs.

Regarding the dimension of teacher learning culture, the research findings support the theory of school organizational culture, which emphasizes that culture is formed through shared practices and the role models of leaders. This research also reinforces the concept of psychological safety in professional learning, where a psychologically safe environment encourages teachers to reflect and innovate. The differences in structured learning cultures in one school and family-based learning in another demonstrate that an effective learning culture does not have to be uniform but must be relevant to the school's social context.

Implications of Research Findings

The findings of this study have both theoretical and practical implications. Theoretically, this study confirms that pedagogical leadership is a dynamic and contextual concept, not a single model that can be applied universally. Effective leadership is leadership that adapts strategies to resource conditions, teacher characteristics, and student needs. Practically, this research has implications for educational policy and practice, particularly in developing the capacity of school principals. Principal training programs should emphasize adaptability, instructional leadership, and strengthening a collaborative culture, not just administrative aspects. For schools with limited resources, these findings suggest that limited facilities do not hinder improving learning quality if principals are able

to implement a personal, dialogic, and community-based approach. Another implication is the importance of building a sustainable teacher learning culture by creating a safe and supportive academic climate. Moral support, motivation, and recognition of teacher performance have been shown to increase professional efficacy and commitment. Therefore, teacher professional development policies need to consider collaborative and school-based approaches.

Research Limitations

This study is limited by its scope, which focused on a single elementary education unit, so the results cannot be broadly generalized. Furthermore, this study used a qualitative approach, so findings are highly dependent on the depth of data and the local context of the schools studied. Therefore, future research is recommended to involve more schools and use a mixed-methods approach to enrich perspectives and strengthen the generalizability of the findings.

This study has several limitations: 1) the study was conducted only in two junior high schools in one island region, so generalizing the findings to other school contexts requires caution. Unique geographic and social characteristics can influence the implementation of pedagogical leadership; and 2) the study's focus was limited to the perspectives of principals and teachers, thus not fully reflecting the views of other stakeholders such as students, parents, or school supervisors. Further research could involve more educational actors to enrich the analysis. Nevertheless, this study makes an important contribution to understanding adaptive pedagogical leadership practices in school contexts with diverse characteristics, particularly in island regions.

CONCLUSION

Based on the research results and discussion, it can be concluded that the principal's pedagogical leadership plays a crucial role in improving teachers' pedagogical and professional competencies and building a teacher learning culture in both schools. Pedagogical leadership is implemented through the principal's direct involvement in teaching and learning, providing professional motivation, creating a supportive academic climate, and strengthening collaboration among teachers. These leadership practices have been shown to encourage teachers to continuously learn, be reflective about their teaching practices, and be open to innovation. This research also shows that the implementation of

pedagogical leadership is contextual and adaptive to school conditions. Schools with more adequate resources tend to adopt a structured approach through formal supervision and systematic professional development programs, while schools with limited resources develop a family-oriented, dialogical, and community-based approach. Although different strategies, both are effective in building a teacher learning culture and enhancing professionalism. Furthermore, a teacher learning culture is formed not only through formal policies but also through the principal's role model, daily interactions, and a psychologically safe environment. A strong learning culture contributes to improved learning quality and the sustainability of educational quality improvement in schools.

This research provides theoretical and empirical contributions to the field of educational leadership, particularly pedagogical leadership. Theoretically, this study reinforces the concept that pedagogical leadership is oriented toward teacher learning and professional development. This research also confirms that pedagogical leadership is not a single concept, but rather flexible and contextual, according to school characteristics. Empirically, this study provides evidence that both formal and informal approaches to pedagogical leadership can be effective in improving teacher competency and building a culture of learning, as long as they are supported by motivation, collaboration, and a positive academic climate. These findings enrich the study of school leadership in remote or island contexts, which is still limited in the literature. Furthermore, this study contributes to the development of the concept of teacher learning culture by demonstrating that a learning culture can develop through daily practices and strong interpersonal relationships, not solely through formal school programs.

Future research is recommended to expand the scope of locations and educational levels to obtain a more comprehensive picture of the implementation of pedagogical leadership in various school contexts. Comparative studies across regions or educational levels are also important to identify effective leadership patterns more broadly. Further research could also examine in more depth the relationship between pedagogical leadership, teacher learning culture, and long-term improvement in learning quality, including factors that support its sustainability.

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