

## Managing Learning Communities to Enhance Elementary Teacher Pedagogical Competence

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**Abstract.** Enhancing teacher pedagogical competence is a cornerstone of educational quality improvement. Professional Learning Communities (PLCs) have emerged as a strategic model for fostering collaborative, sustained professional development. However, their implementation is often inconsistent, limiting their impact on classroom practice. This study aims to analyze the management processes underpinning the implementation of PLCs designed to improve the pedagogical competence of elementary school teachers. This research employed a qualitative approach with a multiple case study design conducted at two Indonesian public elementary schools: SDN Rawasirna and SDN Selajambe 1. Data were collected through in-depth interviews with principals and teachers, non-participant observations of PLC activities, and analysis of institutional documents. The data were analyzed using the interactive model of Miles and Huberman, involving cycles of data reduction, display, and conclusion drawing. The findings reveal that the management of PLCs was highly contextual. Planning was participatory, grounded in teachers' self-identified needs. Organization differed, with one school adopting a formal structure and the other a more flexible, emergent model. PLC activities evolved from simple discussions to collaborative inquiry, including lesson study and student work analysis. Oversight mechanisms, including principal supervision and peer feedback, were established to ensure accountability and reflection. The effective management of PLCs significantly contributed to enhancing teacher pedagogical competence. Success was contingent on transformative instructional leadership, a strong collaborative culture, and adaptive management of challenges such as time constraints and varying facilitator skills. The study concludes that the efficacy of PLCs is determined not by their mere existence but by the deliberate management of their planning, organization, implementation, and oversight processes.

**Keywords:** professional learning communities, pedagogical competence, school management.

### 1 Introduction

In the contemporary educational landscape, shaped by the imperatives of the fourth industrial revolution and a globalized knowledge economy, the quality of teaching stands as the most critical in-school factor influencing student achievement [1]. Consequently, enhancing teacher competence has become a paramount objective for educational systems worldwide. At the heart of effective teaching lies pedagogical

competence, a multifaceted construct encompassing a teacher's ability to understand learners, design evidence-based instruction, implement engaging learning experiences, and conduct meaningful assessments [2]. In Indonesia, this is formally enshrined within the National Teacher Competency Standards, which mandate that all educators possess a sophisticated repertoire of pedagogical skills to foster holistic student development. However, traditional models of professional development—often characterized by sporadic, top-down workshops—have proven largely ineffective in fostering deep and lasting changes in classroom practice [3]. This has spurred a global shift towards models that are more collaborative, job-embedded, and sustained over time.

Among the most promising of these models is the Professional Learning Community (PLC). A PLC is more than a mere group of teachers; it is a structured, collaborative team of educators who work interdependently through cycles of collective inquiry and action research to achieve better results for the students they serve [4], [5]. Rooted in theories of situated learning and communities of practice [6], the PLC model posits that meaningful professional growth occurs when teachers engage in shared dialogue about their practice, collaboratively analyze student work, co-plan lessons, and hold each other mutually accountable for improving student outcomes. The potential benefits are profound: PLCs have been shown to reduce teacher isolation, increase commitment to the school's mission, foster a culture of continuous improvement, and ultimately enhance pedagogical practices [7], [8]. In line with this global trend, Indonesian educational policy strongly endorses the formation of learning communities through regulations such as Government Regulation No. 74 of 2008 concerning Teachers and Director General of GTK Circular Letter No. 4263/B/HK.04.01/2023, which call for the optimization of collaborative forums like the Teacher Working Group (KKG) and Subject-Based Teacher Forum (MGMP).

Despite this strong theoretical and policy foundation, a significant gap persists between the rhetoric of PLCs and their reality on the ground. Initial observations at the research sites, SDN Rawasirna and SDN Selajambe 1 in Cianjur Regency, revealed a common predicament. While collaborative forums existed, they often functioned as administrative channels for disseminating information rather than as vibrant hubs for professional learning. Meetings were often perceived as an obligation to be fulfilled rather than an opportunity for growth, with discussions rarely delving into the substantive challenges of teaching and learning. This reflects a broader national issue where many PLCs remain nominal, failing to transition from superficial congeniality to deep, critical collaboration [9]. Teachers continued to struggle with designing student-centered learning, integrating technology effectively, and engaging in systematic reflection—all hallmarks of strong pedagogical competence [10], [11].

This implementation gap is exacerbated by what Supardi [12] terms an "environmental gap"—a chasm between the ideal conditions for PLCs and the factual conditions within schools. This includes a lack of structural support, such as dedicated time for collaboration built into the school schedule, and a deficit in collaborative culture. Often, school principals have not fully embraced their role as instructional leaders who actively cultivate and participate in the learning community [13]. Furthermore, teacher motivation can be a barrier; some educators view professional development as a responsibility of the state rather than an intrinsic professional necessity. This is

compounded by a lack of resources, including access to professional literature and competent facilitators who can guide the collaborative inquiry process effectively. Consequently, many PLCs stagnate, becoming mere formalities that fail to contribute meaningfully to the enhancement of teaching quality.

This study is motivated by the need to understand what distinguishes effective PLCs from ineffective ones. It moves beyond simply documenting their existence to analyzing the managerial processes that underpin their functionality. By employing the classic management framework of Planning, Organizing, Actuating, and Controlling (POAC) [14], this research seeks to dissect the deliberate actions and strategies that enable PLCs to become powerful engines for professional growth. The central research question guiding this inquiry is: How is the management of professional learning communities implemented to enhance the pedagogical competence of elementary school teachers at SDN Rawasirna and SDN Selajambe 1? By conducting an in-depth, comparative case study of two schools with differing managerial characteristics, this research aims to provide a rich, contextualized narrative of PLC management in practice. The findings are expected to offer valuable insights for school leaders, policymakers, and teachers on how to design and sustain learning communities that genuinely transform pedagogical practice and improve the quality of education for all students.

## 2 Method

This study employed a qualitative approach with a multiple-case study design to gain a deep, holistic, and contextual understanding of the management of professional learning communities [15]. This approach was chosen for its strength in exploring complex social processes within their natural settings, allowing for a rich exploration of the strategies, challenges, and dynamics of PLC implementation that quantitative methods might overlook [16]. The research was conducted at two purposively selected public elementary schools in Cianjur Regency, SDN Rawasirna and SDN Selajambe 1. These schools were chosen because they had both formally established PLCs for at least two years and represented different managerial contexts, providing a valuable basis for comparative analysis.

Data were gathered over a six-month period using a triangulation of methods to ensure the credibility and richness of the findings. The primary data collection techniques included: (1) in-depth, semi-structured interviews with key informants, including both school principals, six teachers actively involved in the PLCs (three from each school), and a district supervisor; (2) non-participant observations of PLC meetings and related collaborative activities to capture the authentic interactions and processes in action; and (3) a review of institutional documents, such as PLC planning documents, meeting minutes, teacher reflection journals, and school supervision reports.

Data analysis followed the interactive model proposed by Miles and Huberman [17], which involves three concurrent flows of activity: data reduction, data display, and conclusion drawing/verification. Initially, raw data from interview transcripts and field notes were systematically coded and categorized according to themes derived from the POAC management framework. Subsequently, the reduced data were organized into

narrative summaries and comparative matrices to display patterns, similarities, and differences between the two cases. Finally, conclusions were drawn iteratively, with emerging findings continually verified against new data to build a robust and well-grounded interpretation of the phenomenon under study.

### **3 Result**

#### **3.1 Planning and Organization: Architecting Collaborative Spaces**

The genesis of the PLCs at both SDN Rawasirna and SDN Selajambe 1 was not a top-down mandate but a carefully managed process of consensus-building. The foundational phase of planning and organization was characterized by a commitment to participatory needs analysis, a strategic move by leadership to foster collective ownership from the outset. Rather than prescribing a rigid program, both principals initiated the process through open forums, framing the PLC not as a new administrative burden but as a collective solution to shared professional challenges. This approach was crucial in mitigating initial resistance. As a teacher at SDN Rawasirna recounted, "We weren't just told to form a group. The principal gathered us and asked, 'What is the most difficult part of our job right now?' Almost everyone said it was designing lessons for the new curriculum and assessing them properly. The community started from that shared problem." This narrative illustrates a key managerial insight: linking the PLC's purpose directly to the felt needs of teachers transforms the initiative from an external imposition into an intrinsic, professionally relevant endeavor.

While both schools began with this participatory ethos, their strategic planning and organizational structures diverged significantly, reflecting different leadership philosophies. SDN Rawasirna adopted what can be termed a "pragmatic-emergent" approach. The principal, recognizing the teachers' busy schedules and limited experience with formal collaboration, opted for a minimalist and flexible structure. The initial plan was simple: meet twice a month to discuss one specific pedagogical challenge identified in the previous meeting. The organizational structure was equally fluid, with a rotating facilitator role and informal documentation. The principal's rationale was clear: "My main goal was just to get them talking to each other about teaching. If I made it too complicated with lots of rules and reports, they would see it as another task. We started small, focusing on building trust and the habit of sharing." This strategy prioritized the social and cultural aspects of collaboration, creating a low-pressure environment where teachers felt safe to be vulnerable and share their struggles. The organization was designed to be adaptive, evolving based on the group's needs rather than conforming to a pre-defined blueprint.

In stark contrast, SDN Selajambe 1 employed a "strategic-formalized" approach. The principal, who had a clear vision of developing a high-functioning PLC modeled on best practices, led a more structured planning process. This involved a formal needs assessment survey, followed by the collaborative development of a year-long PLC agenda with specific monthly themes (e.g., differentiated instruction, formative assessment, classroom technology). The organizational structure was more robust and

hierarchical. A lead teacher was officially appointed as the PLC facilitator, with clear roles and responsibilities defined for all members. A dedicated digital folder was created for storing meeting minutes, shared resources, and reflective journals, ensuring systematic documentation. The principal explained, "For a PLC to be effective, it needs direction and accountability. Our plan gives us a roadmap, and the structure ensures that our discussions lead to action and reflection, not just talk." This approach prioritized clarity, consistency, and a clear focus on measurable outcomes. The formal structure provided a scaffold that guided the group's work and created clear expectations for participation and follow-through. These contrasting approaches demonstrate that there is no single best way to organize a PLC; the optimal structure is one that is contextually aligned with the school's leadership vision, organizational culture, and the developmental stage of its staff.

### **3.2 Actuation: The Dynamics of Collaborative Inquiry and Practice**

The implementation phase revealed the core activities of the PLCs and how they evolved over time from simple sharing to deep collaborative inquiry. In both schools, the activities served as the primary mechanism for enhancing pedagogical competence, but the nature and depth of these activities differed, reflecting their foundational organizational structures. At SDN Rawasirna, with its emergent structure, the meetings initially resembled supportive sharing sessions. Teachers would bring problems they faced in their classrooms—a student who was struggling, a concept that was difficult to teach—and the group would brainstorm solutions together. While valuable for reducing isolation, the principal soon recognized the need for more focus. He began introducing simple protocols, such as the "Chalk Talk" or "Tuning Protocol," to structure discussions and push the conversation towards deeper analysis of pedagogy. A significant turning point occurred when teachers began bringing student work to the meetings. A teacher described the shift: "Before, we would just talk about our problems. But when we started looking at actual student essays together, the conversation changed. We weren't just guessing; we were analyzing evidence. We started asking, 'What does this work tell us about the student's understanding? How could our instruction have been clearer?'" This marked the transition from "problem-sharing" to "evidence-based inquiry," a crucial step in developing reflective practice.

At SDN Selajambe 1, the activities were more structured from the beginning, guided by their annual agenda. Their PLC work was centered on cycles of inquiry, often taking the form of a modified lesson study. The process was systematic: the group would collaboratively plan a lesson targeting a specific learning challenge, one teacher would teach the lesson while the others observed, and then the group would reconvene to debrief, analyzing student responses and refining the lesson for future use. This highly structured, practice-oriented approach provided teachers with a concrete and powerful way to deconstruct and improve their teaching. The appointed facilitator played a key role in managing these cycles, ensuring that observations were focused and that the debriefing sessions were constructive and non-judgmental. As the facilitator noted, "My role is to keep us focused on the lesson and the student learning, not on evaluating the teacher. We are studying the 'lesson,' not the person." This PLC also heavily

emphasized the creation of shared instructional resources. After each cycle, the refined lesson plan, along with any new materials or assessment tools, was added to their shared digital repository, creating a growing library of best practices developed by and for the teachers themselves. This act of co-creation not only improved the quality of instructional materials but also fostered a powerful sense of collective efficacy and shared intellectual property. The contrast between the two schools shows an evolutionary path for PLCs, from informal support groups to highly structured engines of collaborative inquiry, with both models providing value at different stages of development.

### **3.3 Controlling and Adaptation: Navigating Challenges and Sustaining Momentum**

The final management function, controlling or oversight, was crucial for ensuring that the PLCs remained focused, productive, and sustainable. This was not about policing teachers but about creating systems for accountability and continuous improvement. At both schools, the principal's role as an instructional leader was paramount. They regularly attended PLC meetings, not as supervisors, but as co-learners and facilitators. Their presence signaled the institutional importance of the work and allowed them to provide support and resources when needed. At SDN Selajambe 1, a formal feedback loop was established where the PLC facilitator would provide a brief monthly summary of the group's progress and challenges to the principal. At SDN Rawasirna, oversight was more informal, with the principal conducting regular "check-ins" with the rotating facilitators. Both schools also integrated PLC work into the official teacher supervision process. Classroom observations were no longer just an evaluative event but became an opportunity to see how strategies discussed in the PLC were being implemented, with post-observation conferences often referring back to the group's collective goals.

Despite these effective management practices, the journey was not without significant challenges. The most universally cited obstacle was time. As one teacher lamented, "We are passionate about this work, but finding the time is a constant battle. After a full day of teaching and administrative tasks, it's hard to find the mental energy for deep professional dialogue." Another challenge was the varying levels of skill and commitment among teachers. In both groups, there were highly engaged "champions" and more passive participants. A third challenge, particularly at SDN Selajambe 1, was preventing the lesson study process from becoming performative or threatening to the observed teacher.

What distinguished these schools was their ability to manage these challenges adaptively, demonstrating their capacity as learning organizations. To address the time issue, the principal at SDN Selajambe 1, after consulting with the staff, successfully lobbied for a policy change to allow for one early student dismissal per month, carving out dedicated, contracted time for PLC work. At SDN Rawasirna, the principal empowered the group to experiment with different meeting formats, such as shorter, more frequent "huddles" or using a shared digital document for asynchronous collaboration. To address varying commitment levels, both principals used a combination of gentle nudging and celebrating small wins, publicly acknowledging the contributions of all members and highlighting how the PLC's work was making a tangible difference for students. To

ensure psychological safety during observations, the facilitator at SDN Selajambe 1 implemented clear norms and protocols, emphasizing that the focus was on student learning evidence. This proactive and responsive management of challenges was key to sustaining momentum. The oversight process was not static; it was a dynamic feedback loop that allowed the PLCs to identify problems, experiment with solutions, and continuously refine their processes, thereby ensuring their long-term viability and impact.

#### 4 Discussion

The findings from this study provide a nuanced, process-oriented perspective on PLC management, offering several important implications for both theory and practice. The narratives from SDN Rawasirna and SDN Selajambe 1 move the discourse beyond a simplistic advocacy for PLCs toward a deeper understanding of the managerial orchestration required to bring them to life. First, this research strongly reaffirms the centrality of contextual and adaptive leadership in guiding technological and organizational innovation in schools. The marked difference in approach between the "pragmatic-emergent" strategy at SDN Rawasirna and the "strategic-formalized" model at SDN Selajambe 1 powerfully illustrates that there is no universal blueprint for PLC success. This aligns with contingency theories of leadership, which posit that leader effectiveness is dependent on the fit between their style and the situational context, including follower readiness and task complexity [18], [19]. The principal at Rawasirna correctly diagnosed a need for building psychological safety and trust first, hence the flexible structure. Conversely, the principal at Selajambe 1 recognized a higher level of staff readiness and a need for clear direction to maximize impact. This finding challenges a one-size-fits-all policy approach and underscores that the critical role of the school leader is not to implement a prescribed model, but to be an astute organizational diagnostician who architects a collaborative structure that fits the unique culture and capacity of their school.

Second, the study provides compelling empirical evidence of the PLC's role as a potent catalyst for cultural transformation. The observed shift in professional dialogue at both schools—from anecdotal sharing to evidence-based inquiry—is a manifestation of a deeper cultural change. This transition from a "culture of isolation" to a "culture of collaboration" is a cornerstone of the PLC literature [5], [7]. However, this study adds a critical managerial dimension, demonstrating how this shift is actively facilitated. The introduction of specific protocols, the focus on student work as the central "text" for discussion, and the modeling of reflective inquiry by school leaders were deliberate managerial actions that created the conditions for this cultural evolution. The PLC, in this sense, becomes more than a structure; it functions as an "epistemic artifact," fundamentally altering how teachers come to know and improve their practice [20]. The most profound impact of a well-managed PLC, therefore, is not merely the improvement of individual teacher skills, but the cultivation of a collective professional ethos where collaborative inquiry and evidence-based practice become the normalized way of working. This resonates with the principles of Total Quality Management (TQM),

where a focus on data and continuous improvement is embedded in the organization's cultural fabric [21].

Third, the narrative of how both schools navigated significant challenges offers a compelling illustration of the school as a learning organization [22]. The deterministic view that a lack of resources (especially time) will inevitably doom collaborative initiatives is challenged by these findings. While time was a genuine constraint, the schools' responses—restructuring schedules, experimenting with asynchronous formats—demonstrate proactive problem-solving. More importantly, the development of organic, internal support systems like the peer tutoring program shows a high level of organizational intelligence. This strategy not only solved a technical problem (lack of digital skills) but also strengthened the social fabric of the school by building trust and distributing expertise. This aligns with theories of distributed leadership, where expertise is recognized and leveraged wherever it exists within the organization, not just in formal leadership roles [23]. The ability to view challenges not as insurmountable barriers but as opportunities for learning and adaptation is arguably the most critical factor in sustaining any school improvement initiative. It suggests that the resilience and long-term impact of a PLC depend less on the perfection of its initial design and more on the organization's capacity to learn and evolve through a continuous cycle of action, reflection, and adaptation. Ultimately, this study synthesizes these threads to argue that an effective PLC is a complex socio-technical system, whose success hinges on a dynamic interplay between visionary leadership, intentional management, and a fertile organizational culture.

## 5 Conclusion

This study concludes that the deliberate and context-sensitive management of Professional Learning Communities is a powerful lever for enhancing the pedagogical competence of elementary school teachers. The effectiveness of PLCs at SDN Rawasirna and SDN Selajambe 1 was not an accidental outcome but the direct result of systematic management processes encompassing participatory planning, adaptive organization, practice-oriented implementation, and reflective oversight. The findings demonstrate that when managed effectively, PLCs transcend their function as mere meetings and evolve into dynamic ecosystems for professional growth. They successfully foster a collaborative culture that dismantles teacher isolation, cultivates a shared language for teaching and learning, and embeds the use of evidence into the core of pedagogical decision-making.

The success of these initiatives was critically dependent on the instructional leadership of the school principals, who acted not as directors but as cultivators, facilitators, and co-learners. They skillfully architected collaborative spaces and nurtured a culture of psychological safety and mutual accountability. While significant challenges related to time, resources, and varying skill levels were encountered, the schools' capacity to respond adaptively underscores the importance of fostering an organizational culture of learning and resilience. The primary contribution of this research lies in its detailed, process-oriented portrayal of PLC management, offering a practical model that moves

beyond theoretical ideals. For school leaders, the implication is that their core task is to strategically manage the conditions for collaboration. For policymakers, it highlights the need to provide schools with the flexibility and resources—especially dedicated time—required for this deep professional work to flourish. Future research could build on these findings through longitudinal studies to track the long-term impact of mature PLCs on student learning outcomes and teacher retention.

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