

EMPIRICAL PAPER

Integrating Managerial Functions into Professional Learning Communities: Insights from Elementary Education

Mamik Norsetiani^{1*}, Imaniar Purbasari¹, Erik Aditia Ismaya¹, Yusuff Bolaji Yusuff²

Affiliations

¹Universitas Muria Kudus, Kudus, Indonesia

²Universiti Pendidikan Sultan Idris, Malaysia

ORCID Identifiers

Imaniar Purbasari
[0000-0002-7365-2056](https://orcid.org/0000-0002-7365-2056)

Erik Aditia Ismaya
[0000-0002-0204-0474](https://orcid.org/0000-0002-0204-0474)

Yusuff Bolaji Yusuff
[0009-0006-2220-9800](https://orcid.org/0009-0006-2220-9800)

DOI

[10.65820/ejes-5vol2-issue1-2026](https://doi.org/10.65820/ejes-5vol2-issue1-2026)

Abstract

Purpose: This study examined how classical managerial functions, namely planning, organising, actuating, and controlling, are integrated into Professional Learning Communities (PLCs) in an Indonesian elementary school and how they support sustainable teacher professional learning.

Methods: A qualitative single-case study based on Yin's methodology was conducted in a public elementary school implementing a formal PLC under Indonesia's Guru dan Tenaga Kependidikan (GTK) platform. Data were collected through semi-structured interviews with the principal, PLC coordinator, administrators, and teachers, complemented by participant observation and document analysis.

Results: Classical managerial functions were transformed from administrative processes into collaborative professional practices. Planning was participatory and evidence based, organising emphasised distributed leadership, actuating occurred through lesson study, peer collaboration, and pedagogical dialogue, while controlling focused on collective reflection and continuous improvement. PLC effectiveness was strengthened by facilitative leadership, teacher commitment, and digital support systems. However, workload, limited infrastructure, and differences in teacher competence constrained implementation. Sustainable PLC development depended on aligning managerial structures with a collaborative learning culture.

Novelty and Contribution: The study demonstrates that classical management functions can be reinterpreted to strengthen professional collaboration rather than hierarchical control, particularly in resource-constrained schools.

Social and Practical Implications: School leaders and policymakers should integrate structured management practices with reflective professional learning to strengthen PLC sustainability, leadership capacity, and teacher professional development in developing-country contexts.

Keywords: Professional Learning Communities, Educational Management, POAC; School Leadership, Teacher Professional Development

*Corresponding author

E-mail address: setianimamik@gmail.com

How to cite this article:

Norsetiani, M., Purbasari, I., Ismaya, E. A., & Yusuff, Y. B. (2026). Integrating Managerial Functions into Professional Learning Communities: Insights from Elementary Education. *Elicit Journal of Education Studies*, 2(1), 55-68. <https://doi.org/10.65820/ejes-5vol2-issue1-2026>

1 Introduction

Teacher professional development is widely recognised as a foundational driver of educational quality improvement; yet translating development initiatives into sustained instructional change remains one of the most persistent challenges in educational management (Sims et al., 2025). Among the mechanisms proposed to bridge this gap, Professional Learning Communities (PLCs), which are defined as collaborative structures in which teachers engage in shared inquiry, reflective dialogue, and collective problem-solving to improve student learning, have accumulated substantial empirical support across diverse national contexts (DuFour & Eaker, 2009; Hord, 1997; Prenger et al., 2021). Despite this accumulated evidence, a critical question remains underexplored: how do school-level managerial systems enable or constrain the authenticity and sustainability of PLC practices, particularly in elementary schools operating within the institutional constraints characteristic of developing countries?

This question is not merely theoretical. In Indonesia, the Ministry of Education, Culture, Research, and Technology has actively promoted PLCs through the Ruang Guru dan Tenaga Kependidikan (GTK) platform as a cornerstone of the Merdeka Curriculum policy, which repositions teachers as adaptive, reflective professionals rather than passive curriculum consumers (Revina et al., 2023). The policy aspiration is unambiguous: schools are expected to cultivate collaborative learning cultures that continuously translate reflection into pedagogical improvement. Yet the organisational conditions required to sustain such cultures, structured planning, distributed leadership, and reflective evaluation, depend heavily on how school principals exercise their managerial roles. When managerial functions operate hierarchically and procedurally, they may inadvertently suppress the collaborative ethos that PLCs require (Olmo-Extremera et al., 2024).

Theoretically, this tension reflects an unresolved interface between two distinct paradigms. Classical educational management theory, derived from Fayol's (2016) administrative functions: planning, organising, directing, and controlling, prioritises structural efficiency, role differentiation, and hierarchical accountability. PLC theory, by contrast, foregrounds collaborative knowledge construction, shared leadership, and reflective inquiry as the primary drivers of professional growth (DuFour & Eaker, 2009; Hord, 1997). These paradigms are rarely examined together. The prevailing tendency in the PLC literature is to treat organisational management as a contextual backdrop rather than as an active variable shaping PLC quality. Conversely, educational management scholarship often positions teacher collaboration as one output of managerial design rather than as its central purpose. This conceptual separation produces a theoretical gap: we lack frameworks that explain how managerial functions can be reconstituted to serve collaborative, reflective ends without compromising organisational coherence.

Empirically, this gap carries significant consequences. Antinluoma et al. (2021) documented that many schools implementing PLCs do so primarily as formal compliance structures, devoid of the reflective leadership and systematic follow-through that characterise authentic professional learning. Meesuk et al. (2021) identified analogous structural barriers in Thai elementary schools, where time constraints, administrative overload, and the absence of institutionalised reflection mechanisms limited PLC depth. Parker et al. (2022) also observed that coherent managerial support, not merely teacher willingness, conditioned PLC effectiveness in physical education teacher development. These findings collectively suggest that PLC sustainability is not reducible to teacher motivation alone; it requires an enabling managerial architecture.

The contextual gap is equally pronounced. The preponderance of empirical PLC research is concentrated in high-income countries with established organisational infrastructure, stable curriculum frameworks, and well-resourced professional development systems (Lidolf & Pasco, 2020). Research on PLC practices in elementary schools in developing countries, where hierarchical organisational cultures, resource scarcity, and limited transformational leadership capacity complicate implementation, is comparatively sparse (Rahmawati, 2021; Meesuk et al., 2021). Indonesia, as the world's fourth most populous nation and a country actively scaling national PLC infrastructure, represents a case of considerable theoretical and practical significance that has received insufficient scholarly attention.

Against this backdrop, this study examines the integration of classical managerial functions within PLC practices at SD Negeri 4 Bategede Nalumsari, Jepara, Indonesia, a public elementary school that has actively implemented a structured learning community called 'Lentera Ilmu' within the GTK framework. The study addresses the following research questions:

- i. How are managerial functions of planning, organising, actuating, and controlling enacted within the school's PLC practices?
- ii. What organisational, cultural, and leadership factors support or impede PLC effectiveness in this elementary school context?
- iii. What conceptual synthesis can be drawn from the integration of classical management theory and collaborative PLC principles?

This study makes three interconnected contributions. Theoretically, it advances a collaborative PLC management model that reconceptualises POAC functions as collaborative, reflective processes rather than hierarchical control mechanisms. Empirically, it provides an in-depth account of PLC managerial integration in an Indonesian elementary school, a context previously underrepresented in the international literature. Practically, it offers concrete evidence for school leaders and policymakers seeking to institutionalise sustainable PLC cultures within formal management frameworks in developing-country settings.

2 Literature Review

2.1 Classical Management Theory and Educational Administration

Henri Fayol's (2016) general theory of administration, originally developed in the context of industrial management, identified five primary administrative functions: planning, organising, commanding, coordinating, and controlling. Adapted for educational settings, this framework has been operationalised as the POAC model: Planning, Organising, Actuating, and Controlling, which has been widely used to analyse school management practices in Indonesia and comparable developing-country contexts (Asni, 2025). Planning encompasses goal-setting, needs identification, and the allocation of resources toward educational improvement objectives. Organising involves distributing roles, responsibilities, and authority within institutional structures. Actuating refers to the motivational and directional functions of leadership that mobilise collective effort. Controlling involves the monitoring, evaluation, and corrective processes that maintain alignment between organisational activity and stated goals.

While the POAC framework offers analytical clarity, its conventional application in school management has been critiqued for reproducing hierarchical, top-down authority structures that are poorly suited to the collaborative and adaptive demands of contemporary educational improvement (Olmo-Extremera et al., 2024). This critique is not a rejection of managerial structure per se, but a call to reconstitute its logic: management functions, when exercised participatively and reflectively, can become enabling structures for professional learning rather than constraints upon it. The present study is situated precisely at this reconstitutive boundary.

2.2 Professional Learning Communities

The concept of Professional Learning Communities was systematically developed by DuFour and Eaker (2009) and subsequently elaborated by Hord (1997), who identified five structural dimensions of effective PLCs: shared and supportive leadership, shared values and vision, collective learning and application, supportive conditions, and shared personal practice. These dimensions collectively constitute an organisational culture oriented toward collaborative inquiry and continuous improvement, rather than individual-teacher compliance with externally imposed directives.

The empirical evidence for PLC effectiveness in improving teacher professional development and student learning outcomes is substantial. Prenger et al. (2021) conducted a systematic review of professional learning networks. They found that PLC impacts on teacher learning and school improvement were mediated by the quality of collaborative structures, particularly the coherence of shared goals and the depth of reflective dialogue. Antinluoma et al. (2021) identified that PLCs generating authentic professional learning, as distinct from PLCs functioning as compliance structures, were characterised by participatory leadership, psychological safety, and institutionalised reflection. Zhang et al. (2022), in a large-scale study of Chinese elementary schools, demonstrated that principals' transformational leadership significantly moderated the relationship between PLC participation and teacher job satisfaction, underscoring the critical role of school leadership in shaping PLC culture.

In developing-country contexts, PLC research reveals a more complex picture. Meesuk et al. (2021) found that sustainable PLC practices in Thai schools required deliberate structural supports, including dedicated collaborative

time, administrative recognition of professional learning activities, and reflective documentation systems, which are frequently absent in under-resourced settings. Belay and Melesse (2024), in an Ethiopian study using structural equation modelling, established that teachers' motivation for continuous professional development was significantly predicted by PLC membership, but that this relationship was contingent upon the presence of supportive leadership practices. These findings collectively substantiate that PLC effectiveness is an organisational achievement, not merely a function of individual teacher enthusiasm.

2.3 Transformational Leadership and Collective Efficacy in PLCs

A consistent finding across the PLC literature is the pivotal role of school leadership, particularly transformational and instructional leadership, in shaping PLC quality. Bellibaş et al. (2021) demonstrated, through structural equation modelling with Turkish school data, that principals' transformational leadership moderated the relationship between instructional leadership and teacher professional learning, suggesting that leadership style shapes not only what teachers learn but how collaboratively they learn it. Hosseingholizadeh et al. (2023) found that instructional leadership exercised by principals in primary schools significantly predicted teachers' collective efficacy and professional learning outcomes, mediated by teachers' organisational commitment.

Collective efficacy, defined as teachers' shared belief in their collective capacity to positively affect student outcomes (Bandura, 1997, as applied in educational contexts), is increasingly recognised as a mediating construct between PLC engagement and instructional improvement. When school leaders structure PLCs so that collaborative problem-solving genuinely influences pedagogical practice, collective efficacy deepens, and the PLC becomes self-sustaining rather than dependent on administrative mandate.

2.4 Reflective Practice, Lesson Study, and Collaborative Professionalism

Reflective practice, theorised originally by Schön (1983) and operationalised in PLC contexts through structured inquiry cycles, lesson study, and evidence-based dialogue, constitutes the epistemic core of authentic PLCs. Johannesson (2022) demonstrated through action research how PLCs developed through structured reflective cycles generated qualitatively different professional learning than those operating primarily as information-sharing forums. The distinction between surface-level and deep collaboration, characterised by the willingness to make personal pedagogical practices visible and subject to collective scrutiny, is a recurring threshold in PLC research (Antinluoma et al., 2021).

Lesson study, originating in Japanese teacher development traditions, has been increasingly adopted in diverse national contexts as a structured protocol for collaborative pedagogical inquiry. Within PLCs, lesson study functions as an actuating mechanism; it provides a concrete, iterative process through which collaborative planning, implementation, and evaluation are unified in a single professional learning activity. Its relevance to the present study lies in its capacity to bridge the organisational (managerial) and professional (collaborative) dimensions of PLC practice.

The theoretical contribution of this study lies at the intersection of these two bodies of literature. Existing scholarship treats classical management theory and PLC theory as largely separate fields, with the former applied primarily to organisational structure and the latter to professional culture. This study argues that the two frameworks are not merely compatible but mutually reinforcing when managerial functions are reconstituted as collaborative rather than hierarchical processes. Planning becomes participatory needs analysis; organising becomes distributed leadership architecture; actuating becomes transformational facilitation; and controlling becomes formative, evidence-based reflection. This reconstitution, which we term the Collaborative PLC Management Model, provides the conceptual lens through which the empirical findings of this study are interpreted.

3 Methodology

3.1 Research Design

This study adopts a qualitative, single case study design following Yin's (2018) methodological framework, which is appropriate when the research objective is to investigate a contemporary phenomenon within its real-world context

and when the boundaries between phenomenon and context are not clearly delineated. The 'how' and 'why' framing of the research questions further supports a case study approach, as these questions call for processual and explanatory inquiry rather than frequency-based generalisation (Creswell & Poth, 2023). The case is conceptualised holistically: the unit of analysis is the PLC management system at SD Negeri 4 Bategede Nalumsari as a complex organisational phenomenon, encompassing leadership practices, structural arrangements, collaborative routines, and reflective culture.

A qualitative design was chosen to preserve the contextual richness of organisational processes that cannot be adequately captured through survey instruments or experimental protocols. The constructivist epistemological stance underlying this design acknowledges that participants' meanings and interpretive frameworks are constitutive of the phenomena under investigation, and that the researcher's role is interpretive rather than merely observational (Creswell & Poth, 2023).

3.2 Research Site and Participant Selection

The research was conducted at SD Negeri 4 Bategede Nalumsari, Jepara Regency, Central Java, Indonesia, a public elementary school actively implementing a formally structured PLC named 'Lentera Ilmu' under the GTK platform framework. Purposively selected, the site met Yin's (2018) case selection criteria, including theoretical relevance to the research phenomenon, accessibility for sustained fieldwork, and representativeness of the national PLC implementation context. The school's formal institutionalisation of PLC management through an official principal's decree, establishing a horizontal leadership structure with designated roles, made it a particularly information-rich case for investigating the POAC–PLC interface.

Participants were purposively selected based on their direct and sustained involvement in PLC planning, coordination, facilitation, and participation activities within the school's learning community structure. Inclusion criteria required active participation in PLC activities for at least one academic semester. The participant group consisted of the principal (n=1), PLC coordinator (n=1), PLC administrators (n=2), and PLC member-teachers (n=6), ensuring representation across strategic leadership, organisational coordination, and classroom-level implementation perspectives.

3.3 Data Collection

Data were generated through three complementary methods, consistent with Yin's (2018) emphasis on multiple sources of evidence to strengthen construct validity. First, in-depth semi-structured interviews were conducted with all ten participants, using an interview guide organised around the four POAC functions and their intersection with PLC principles. Interviews were audio-recorded with informed consent, transcribed verbatim, and member-checked for accuracy. Second, participant observation was conducted across eight PLC sessions over four months, including collaborative planning meetings, lesson study activities, reflective discussions, and evaluation sessions. An observation protocol was developed before fieldwork to ensure systematic documentation of collaborative and managerial processes. Third, documentary analysis encompassed official school policy documents (including the Principal's Decree establishing the PLC organisational structure), meeting minutes, teacher reflection reports, and digital activity records from the GTK platform.

This multi-method approach reflects what Denzin (2017) terms methodological triangulation, which strengthens the credibility of qualitative findings by enabling cross-source verification of emerging patterns. The concurrent collection of interview, observational, and documentary data allowed for ongoing analytical comparison throughout fieldwork, consistent with the iterative logic of qualitative inquiry.

3.4 Data Analysis

Data analysis followed the interactive model developed by Miles et al. (2014), comprising three recursive stages: data reduction, data display, and conclusion drawing and verification. Researchers subjected interview transcripts and observational field notes to open coding in the data reduction phase. This generated initial descriptive codes, and they subsequently grouped these codes into analytical categories. The categories aligned with the four POAC functions and their intersection with PLC dimensions. Codes were developed inductively from the data and

deductively informed by the theoretical framework, reflecting what Miles et al. (2014) describe as a hybrid coding approach.

In the data display phase, a thematic matrix was constructed to map the relationships between management functions (planning, organising, actuating, controlling) and PLC characteristics (collaborative culture, shared leadership, reflective practice, collective efficacy). This matrix served as an analytical scaffolding device that made patterns, convergences, and tensions visible across data sources. In the conclusion drawing and verification phase, Yin's (2018) pattern-matching analytic technique was employed, comparing observed empirical patterns against the theoretical propositions derived from the POAC–PLC theoretical framework. This technique allows the researcher to assess whether empirical findings confirm, extend, or challenge the theoretical expectations derived from prior literature.

3.5 Trustworthiness

Trustworthiness was established through four criteria following Lincoln and Guba's (1985) framework as operationalised in this study. Credibility was strengthened through prolonged engagement (four months of fieldwork), member checking of interview transcripts with participants, and source triangulation across interviews, observations, and documents. Transferability was addressed through a thick description of the research context, enabling readers to assess the applicability of findings to comparable settings (Creswell & Poth, 2023). Dependability was maintained through systematic documentation of all analytical decisions in a research audit trail, including a reflexivity journal maintained by the primary researcher. Confirmability was ensured through theoretical triangulation, cross-checking interpretations against the POAC framework, PLC theory, and transformational leadership theory, and through a supervisory review of coding decisions at multiple stages of analysis.

4 Findings

Analysis of interviews, observational data, and documentary evidence generated four primary thematic findings, each corresponding to one of the POAC managerial functions as enacted within the 'Lentera Ilmu' PLC. A fifth cross-cutting theme captures the interplay of enabling and constraining factors. These findings collectively form an integrated empirical picture showing how classical managerial functions are reconstructed in a collaborative, reflective direction within an Indonesian elementary school PLC context.

4.1 Collaborative and Evidence-Based Planning

Planning within the 'Lentera Ilmu' PLC departed notably from the conventional top-down model of administrative agenda-setting. Rather than beginning with the principal's instructional priorities, the planning process was initiated through a structured needs identification exercise in which all teachers participated. This exercise drew on three evidence sources: results of academic supervision conducted by the principal, diagnostic assessment data reflecting student learning gaps, and teachers' own reflective accounts of pedagogical challenges encountered in their classrooms. A member of the PLC coordination team described this process:

'We always start by asking where our students are struggling, and then we ask ourselves why. The principal gives us the supervision data, but we discuss it together and decide what we want to work on.'

This participatory planning practice reflects DuFour and Eaker's (2009) foundational PLC principles of shared vision and collective inquiry, in which professional development goals are collectively constructed rather than administratively assigned. Significantly, planning activities were formalised in official school documents, including a structured PLC activity calendar and documented meeting agendas, providing the organisational infrastructure necessary for plan implementation and accountability. The principal's role in this phase was explicitly facilitative: framing the planning conversation around school improvement data while deferring to teachers' professional judgment about priority needs.

The integration of diagnostic student learning data into planning reflects an evidence-informed professional learning orientation that is consistent with Sims et al.'s (2025) meta-analytic finding that teacher professional development

produces the greatest instructional improvement when it is tightly coupled with specific, contextualised student learning evidence rather than generic pedagogical content.

4.2 Participatory Organising Through Horizontal Structures

The organisational structure of the 'Lentera Ilmu' PLC was formally established through the Principal's Decree Number 01/111/2025, which stipulated a horizontal leadership architecture positioning the principal as the primary facilitator, the driving teacher as the operational coordinator, and all teachers as active, co-responsible members. This structural arrangement was noteworthy in the Indonesian elementary school context, where hierarchical principal authority is culturally normative, and the positional distance between principals and classroom teachers often inhibits open professional dialogue.

Observational data confirmed that the horizontal structure was not merely nominal. During PLC sessions, teachers spoke freely about instructional challenges, including situations where their classroom management had not been effective, without apparent concern about evaluation or judgment. The principal participated as a fellow learner in several sessions, contributing pedagogical suggestions rather than directives. One experienced teacher observed: 'In this community, the principal's voice is important, but it is not the only voice. Everyone's experience counts.'

This organisational design aligns with Bellibaş et al.'s (2021) argument that transformational leadership is most effective when it combines instructional guidance with role-sharing practices that strengthen teachers' sense of professional agency. It also resonates with Belay and Melesse's (2024) finding from Ethiopia that horizontal PLC structures predicted teachers' engagement in reflective innovation, suggesting that the structural dimension of PLC organisation, not only its cultural dimension, has material consequences for professional learning depth.

Fayol's (2016) organising principles, particularly division of work, unity of direction, and authority commensurate with responsibility, were evident in this structure, but with a crucial reorientation: authority was distributed across roles rather than concentrated in a single administrative position, and accountability was framed in terms of collective improvement rather than individual compliance.

4.3 Reflective Implementation Through Lesson Study and Pedagogical Dialogue

The actuating function, mobilising the PLC toward its collaborative learning objectives, was operationalised primarily through three recurring activity formats: lesson study cycles, structured pedagogical dialogue sessions, and best-practice sharing. Observations across eight PLC sessions documented a consistent pattern: each session opened with a brief reflective review of outcomes from the previous meeting, moved through a structured learning activity, and closed with an explicit commitment to follow-up application in classroom practice.

Lesson study activities followed a three-phase structure (plan-do-reflect) in which small groups of teachers collaboratively designed a research lesson, one teacher implemented it while colleagues observed, and the group subsequently engaged in structured post-observation dialogue. These activities were notable for their psychological safety: teachers openly acknowledged when student responses had not matched their pedagogical expectations, and the debrief discussions were oriented toward collective problem-solving rather than performance evaluation. The PLC coordinator, in an interview, articulated the norm explicitly:

'This is not a place to look good. This is a place to get better together.'

The online dimension of PLC implementation, facilitated through the GTK platform, extended collaborative engagement beyond scheduled meeting times and enabled participation in national PLC events and expert input sessions. Carpenter and Munshower (2020) documented analogous benefits of virtual PLC participation in broadening teachers' exposure to diverse pedagogical perspectives, though they also cautioned that digital engagement must be complemented by face-to-face interaction to sustain relational trust. In this study, the hybrid model, combining scheduled face-to-face sessions with asynchronous digital documentation and engagement, appeared to strike a productive balance.

Hosseingholizadeh et al. (2023) identified instructional leadership as a significant predictor of collective efficacy in primary schools, mediated by teacher commitment. The observational evidence in this study suggested that the principal's participation in lesson study debriefs, framing questions rather than prescribing answers, functioned as an

instructional leadership practice that reinforced collective efficacy by demonstrating that professional challenges were solvable through collaborative inquiry.

4.4 Data-Driven, Formative Evaluation as Collective Reflection

The controlling function, in its conventional managerial sense, implies external monitoring and corrective intervention by a supervisory authority. The evaluation practices observed in this study constituted a substantive departure from this model. Rather than functioning as a compliance-checking mechanism, evaluation was enacted as a formative, collectively owned reflective process. Following each PLC session, teachers completed structured reflection forms documenting what they had learned, what they intended to apply in their classrooms, and what questions remained unresolved. The PLC coordinator compiled these reflections into a shared digital repository, which served as both an accountability record and an input to the next planning cycle.

The principal and PLC coordinator conducted periodic classroom walk-throughs, brief, low-stakes observational visits designed to document evidence of PLC learning transfer to instructional practice. Walk-through findings were shared with teachers in a non-evaluative format, framed as data for collective discussion rather than as individual performance judgments. This practice reflects what Parker et al. (2022) identified as the critical function of evidence-informed feedback loops in sustaining PLC improvement cycles. Sims et al. (2025), in their meta-analysis of effective teacher professional development, similarly identified the incorporation of feedback and reflection cycles as among the most powerful design features of professional development programs.

This reorientation of control from external monitoring to collective, evidence-based reflection represents a significant reconstitution of the Fayolian controlling function. Rather than asking *'Did teachers comply with the PLC program?'*, the controlling process in this PLC asked *'What have we learnt together, and what does the evidence say about our students' progress?'* This reframing preserved the accountability function of control while embedding it within the collaborative learning logic of PLC theory.

4.5 Enabling and Constraining Factors

Cross-cutting analysis of the data identified a cluster of enabling factors that collectively sustained PLC engagement: teacher commitment manifested in consistent attendance and documented follow-up; the principal's facilitative leadership style, which modelled collaborative inquiry norms; an open feedback culture that generated interpersonal trust; and the GTK digital platform, which extended collaborative engagement beyond scheduled sessions. These enabling factors are consistent with the conditions identified in the international PLC literature (Antinluoma et al., 2021; Prenger et al., 2021).

Constraining factors were equally evident: teacher time was significantly compressed by administrative duties and teaching loads, limiting the depth of preparation for PLC sessions; infrastructure limitations, including unreliable internet connectivity, periodically disrupted digital engagement; heterogeneity in teachers' pedagogical knowledge bases created uneven participation dynamics; and the absence of a systematic linkage between PLC learning outcomes and formal school performance indicators left the PLC somewhat organisationally peripheral.

To mitigate these constraints, the school adopted four adaptive strategies: the formalisation of PLC schedules within the academic calendar to protect collaborative time; the provision of targeted professional learning to address knowledge heterogeneity; the use of asynchronous digital tools to reduce dependency on synchronous connectivity; and the integration of PLC reflection records into school quality assurance documentation. These adaptive strategies reflect the PLC management practices identified by Meesuk et al. (2021) as critical for sustaining PLC participation in resource-constrained educational settings.

5 Discussion

This study investigated how classical managerial functions are integrated within PLC practices in an Indonesian elementary school, and what this integration reveals about the conditions under which PLCs can become authentic, sustainable professional learning spaces. The findings produce three analytically significant insights that are discussed in relation to the existing theoretical and empirical literature.

5.1 The Reconstitution of Managerial Functions as Collaborative Practice

The most theoretically significant finding of this study is that the four POAC managerial functions, planning, organising, actuating, and controlling, did not operate in this school as parallel or separate processes from PLC activities. Instead, they were reconstituted within collaborative logic, such that each managerial function served as an organisational infrastructure for professional learning rather than as an administrative control mechanism. This reconstitution is not self-evident; it required deliberate leadership choices about how authority was distributed, how accountability was framed, and how organisational structures were designed.

This finding stands in productive tension with the prevailing critique that classical management theory is fundamentally incompatible with the collaborative, emergent character of PLC culture (Olmo-Extremera et al., 2024). The evidence from this study suggests that this incompatibility is not inherent to managerial structure itself, but rather to the hierarchical and compliance-oriented mode in which managerial functions are typically exercised. When planning is participatory, organising is horizontal, actuating is facilitative, and control is formative, the POAC framework becomes a scaffold for, rather than a constraint on, collaborative professional learning. This reinterpretation extends Prenger et al.'s (2021) finding that PLC effectiveness is mediated by organisational support systems by specifying the type of support most conducive to PLC depth: support that is structured yet collaborative, accountable yet reflective.

5.2 The Principal as Architect of Collaborative Management Culture

A second analytically significant finding concerns the role of the school principal in shaping the interface between management functions and PLC culture. The principal in this study did not merely permit collaborative practices; the principal actively designed the organisational conditions, the horizontal structure, the participatory planning process, and the non-evaluative walk-through practice that made collaborative learning sustainable. This finding is consistent with Zhang et al.'s (2022) evidence from Chinese elementary schools that principals' transformational leadership significantly moderated PLC-teacher satisfaction relationships, and with Bellibaş et al.'s (2021) finding that transformational leadership amplified the professional learning effects of instructional leadership.

However, the present findings add a dimension that is underemphasised in the leadership literature: the principal's managerial competence, specifically, the capacity to design, document, and institutionalise collaborative structures through formal policy instruments (such as the principal's decree establishing the PLC structure), was as critical to PLC sustainability as her/his interpersonal facilitation skills. This finding echoes Parker et al.'s (2022) observation that structural, managerial support, not only relational leadership, conditions PLC effectiveness. It suggests that the dichotomy between 'managerial' and 'transformational' leadership in PLC contexts may be analytically unhelpful: effective PLC leadership appears to require both structural competence and relational facilitation, exercised in an integrated manner.

5.3 Contextual Specificities of the Indonesian Elementary School Setting

The third significant finding concerns the distinctive contextual features of the Indonesian elementary school setting and their implications for PLC theory and practice. Two features deserve particular analytical attention. First, the explicit institutionalisation of the PLC through formal administrative instruments, a principal's decree, official role designations, and documented activity calendars, suggests that in contexts where organisational culture is strongly influenced by hierarchical and procedural norms, the legitimation of collaborative structures through formal administrative authority may be a necessary precondition for authentic participation. This finding contrasts with Western PLC scholarship, which tends to emphasise organic, emergent collaborative culture as the foundation for sustainable PLCs (Hord, 1997). In the Indonesian context, formal administrative structures appeared to function as permission structures that enabled teachers to engage collaboratively without transgressing professional hierarchies.

This finding is partially consistent with Meesuk et al.'s (2021) observation from Thailand that structural supports, including administrative time allocations and formalised reflection protocols, were prerequisites for PLC sustainability in hierarchical educational cultures. It extends this insight by demonstrating that formal institutionalisation can coexist with genuine collaborative authenticity, provided that the institutional structures are designed to distribute, rather than concentrate, professional agency.

Second, the role of digital technology, specifically the GTK platform, in extending collaborative engagement beyond the boundaries of the school site reflects an increasingly documented pattern in PLC research from resource-constrained settings. Carpenter and Munshower (2020) demonstrated that virtual PLCs could broaden teachers' professional networks and exposure to diverse pedagogical models, though sustained relational trust required face-to-face anchoring. The hybrid model documented in this study, structured face-to-face sessions supplemented by asynchronous digital engagement, appears to represent an adaptive response to the infrastructure and time constraints characteristic of developing-country elementary schools.

5.4 Theoretical Contribution: The Collaborative PLC Management Model

The synthesis of classical management theory and PLC principles proposed in this study, the Collaborative PLC Management Model, offers a conceptual contribution that differs from existing models in two respects. First, it provides an explicit theoretical account of how managerial functions can be reconstituted as collaborative practices, rather than treating management and collaboration as separate or competing organisational logics. Second, it grounds this reconstitution in empirical evidence from a developing-country elementary school context, extending the generative range of PLC theory beyond its predominantly Western, secondary-school origins.

The model implies that school improvement initiatives in developing-country contexts need not choose between organisational order (provided by management structures) and professional autonomy (provided by collaborative culture): when management functions are exercised through participatory, reflective, and horizontal practices, they can become the organisational scaffolding through which collective professional learning is sustained and deepened.

6 Conclusions

This study investigated how classical managerial functions are integrated within PLC practices in an Indonesian elementary school, contributing both theoretical and empirical insights to the scholarly literature on educational management, professional learning communities, and teacher professional development in developing-country contexts. The primary finding that POAC functions, when exercised through participatory, horizontal, and reflective practices, become organisational scaffolding for collaborative professional learning rather than constraints upon it, challenges a prevalent assumption in the PLC literature that managerial structure and collaborative culture are inherently in tension.

The empirical evidence, derived from four months of fieldwork across interviews, observations, and documentary analysis, demonstrates that the school's Collaborative PLC Management Model rested on four mutually reinforcing organisational practices: evidence-based participatory planning, horizontal role distribution, lesson study-centred reflective implementation, and formative data-driven evaluation. The sustainability of these practices was conditioned by the principal's dual capacity as both a structural architect, designing and institutionalising collaborative organisational forms, and a relational facilitator who modelled collaborative inquiry norms within PLC sessions.

The theoretical contribution of this study lies in its articulation of a Collaborative PLC Management Model that bridges classical management theory and collaborative PLC principles, offering a conceptual framework through which the organisational conditions for PLC sustainability in developing-country elementary education can be analysed and designed. This model does not simply combine two existing frameworks; it proposes a specific reconstitution of managerial functions toward collaborative ends, grounded in contextually specific empirical evidence.

For educational leaders, curriculum developers, and policy architects in Indonesia and analogous developing-country contexts, the practical implication is clear: building sustainable PLCs requires not only investment in teacher motivation and digital infrastructure, but deliberate attention to the design of school-level managerial systems that distribute professional authority, institutionalise reflective accountability, and embed collaborative learning within the organisational fabric of school management. It is at this intersection, between management and collaboration, between structure and agency, that the future of teacher professional development in elementary education most productively lies.

Implications

Theoretical Implications

This study contributes to the theoretical literature on PLC management in three respects. First, it demonstrates that the POAC framework, when applied reflexively and participatively, is not inherently antithetical to PLC values but can be reconstituted as an organisational scaffold for collaborative professional learning. This challenges the default assumption in PLC scholarship that managerial structure and collaborative culture are in tension, and invites more nuanced theorising of how organisational design shapes PLC quality. Second, the Collaborative PLC Management Model offers a conceptual bridge between educational management theory and PLC theory that can be further developed and tested in comparative studies across different national and educational-level contexts. Third, the study extends PLC theory to the under-researched domain of developing-country elementary education, where the organisational preconditions for PLC sustainability differ significantly from those documented in high-income country contexts.

Practical Implications

For school principals, the findings underscore the importance of managerial design alongside relational leadership. Principals seeking to establish sustainable PLCs should attend not only to building a collaborative culture but also to institutionalising collaborative structures through formal policy instruments, role designations, and documentation systems that provide organisational continuity independent of any individual's tenure. The participatory planning model documented in this study, in which diagnostic student learning data serves as the anchor for collaborative professional development goal-setting, offers a readily replicable protocol for evidence-aligned PLC planning.

For PLC facilitators and driving teachers, the lesson study cycle documented in this study, with its emphasis on psychological safety, structured observation protocols, and collective debriefing, provides a pedagogically grounded activity structure that supports both deep reflection and professional trust development. The integration of structured reflection documentation into PLC activities also offers a mechanism for making professional learning visible and cumulative over time.

Policy Implications

At the policy level, this study suggests that the national PLC infrastructure currently developed through the GTK platform in Indonesia would benefit from more explicit guidance on the managerial conditions, particularly the design of school-level organisational structures, leadership role distributions, and evaluation frameworks that support authentic PLC engagement. Policy currently focuses on platform access and participation metrics; the evidence from this study suggests that structural conditions at the school level are equally, if not more, determinative of PLC quality. Regional education authorities (*dinas pendidikan*) may consider incorporating PLC management capacity-building, including training in participatory planning, distributed leadership design, and formative evaluation, into their principal professional development programs.

Limitations and Future Research Directions

Every study has its limitations, and this study is no exception. First, as a single case study, the research is intentionally bounded in scope; it offers in-depth analytical insight into one elementary school's PLC management practices, but cannot support claims of statistical representativeness or cross-site generalisation. The strength of a case study lies in theoretical transferability, the applicability of the analytical framework to comparable contexts, rather than empirical generalizability. Readers should assess the relevance of the findings to their own contexts through the thick contextual description provided. Therefore, future studies should conduct comparative, multi-site case studies examining PLC management integration across elementary schools with varying levels of PLC maturity, leadership styles, and regional contexts, thereby enabling an assessment of the generative range and boundary conditions of the Collaborative PLC Management Model. Such studies could identify whether and how the reconstitution of POAC functions as collaborative practices occurs differentially across organizational contexts.

As a qualitative study conducted over four months, the research captures a temporal cross-section of PLC practices rather than a longitudinal developmental trajectory. Therefore, future studies should consider quantitative or mixed-methods studies to examine the relationship between specific managerial practices identified in this study, participatory planning, horizontal organising, formative evaluation, and measurable outcomes, including teacher collective efficacy, pedagogical improvement, and student learning gains. Such studies would complement the process-oriented evidence provided here with outcome evidence, strengthening the empirical basis for the Collaborative PLC Management Model.

Fourth, despite explicit attention to researcher reflexivity, the primary researcher's insider familiarity with the Indonesian educational context may have influenced interpretive judgments in ways that are not fully transparent. This limitation is inherent to qualitative research conducted by contextually positioned researchers and was managed, though not eliminated, through the trustworthiness procedures described in the methodology section.

Acknowledgement

The authors would like to thank the fellow authors and organisations whose intellectual properties were utilised for this study.

Conflict of Interest

The authors declare no conflicts of interest.

Declaration of Use of Generative AI

The author declares that generative AI tools were used only for language editing, clarity, and structural refinement. They were not used otherwise. Therefore, the authors take full responsibility for the accuracy, originality, and integrity of the manuscript.

Funding

This research received no funding.

References

- Antinluoma, M., Ilomäki, L., & Toom, A. (2021, April). Practices of professional learning communities. In *Frontiers in Education* (Vol. 6, p. 617613). Frontiers Media SA. <https://doi.org/10.3389/feduc.2021.617613>
- Asni, A. (2025). The role of POAC management functions in enhancing the quality of counseling and guidance services for students in schools in Indonesia. *Jurnal Konseling dan Pendidikan*, 13(1), 89-101. <https://doi.org/10.29210/1138100>
- Belay, S., & Melesse, T. (2024). Exploring the link between teachers' motivation for continuous professional development and professional learning communities: A structural equation modeling approach. *Sage Open*, 14(3), 21582440241281855. <https://doi.org/10.1177/21582440241281855>
- Bellibaş, M. Ş., Kılınç, A. Ç., & Polatcan, M. (2021). The moderation role of transformational leadership in the effect of instructional leadership on teacher professional learning and instructional practice: An integrated leadership perspective. *Educational Administration Quarterly*, 57(5), 776-814. <https://doi.org/10.1177/0013161x211035079>
- Carpenter, D., & Munshower, P. (2020). Broadening borders to build better schools: Virtual professional learning communities. *International Journal of Educational Management*, 34(2), 296-314. <https://doi.org/10.1108/ijem-09-2018-0296>
- Creswell, J. W., & Poth, C. N. (2016). *Choosing Among Five Qualitative Approaches*. Sage Publications. <https://doi.org/10.4135/9781529629866>
- Denzin, N. K. (2017). *The research act: A theoretical introduction to sociological methods*. Routledge. <https://doi.org/10.4324/9781315134543>

- DuFour, R., & Eaker, R. (2009). *Professional learning communities at work tm: Best practices for enhancing students' achievement*. Solution Tree Press. <https://doi.org/10.4135/9781452218991.n8>
- Fayol, H. (2016). *General and industrial management*. Ravenio Books.
- Hord, S. M. (1997). Professional learning communities: Communities of continuous inquiry and improvement.
- Hosseingholizadeh, R., Amrahi, A., & El-Farr, H. (2023). Instructional leadership, teacher's collective efficacy, commitment, and professional learning in primary schools: A mediation model. *Professional Development in Education*, 49(3), 518-535. <https://doi.org/10.1080/19415257.2020.1850510>
- Johannesson, P. (2022). Development of professional learning communities through action research: Understanding professional learning in practice. *Educational Action Research*, 30(3), 411-426. <https://doi.org/10.1080/09650792.2020.1854100>
- Lidolf, S., & Pasco, D. (2020, May). Educational technology professional development in higher education: A systematic literature review of empirical research. In *Frontiers in Education* (Vol. 5, p. 35). Frontiers Media SA. <https://doi.org/10.3389/feduc.2020.00035>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. sage. [https://books.google.com.ng/books?hl=en&lr=&id=2oA9aWlNeooC&oi=fnd&pg=PA7&dq=Lincoln,+Y.+S.,+%26+Guba,+E.+G.+\(1985\).+Naturalistic+inquiry.+Sage&ots=0vqCUaPaBq&sig=4jhEIJHbTQX-pQTjf7zN8ttKeTQ&redir_esc=y#v=onepage&q=Lincoln%2C%20Y.%20S.%2C%20%26%20Guba%2C%20E.%20G.%20\(1985\).%20Naturalistic%20inquiry.%20Sage&f=false](https://books.google.com.ng/books?hl=en&lr=&id=2oA9aWlNeooC&oi=fnd&pg=PA7&dq=Lincoln,+Y.+S.,+%26+Guba,+E.+G.+(1985).+Naturalistic+inquiry.+Sage&ots=0vqCUaPaBq&sig=4jhEIJHbTQX-pQTjf7zN8ttKeTQ&redir_esc=y#v=onepage&q=Lincoln%2C%20Y.%20S.%2C%20%26%20Guba%2C%20E.%20G.%20(1985).%20Naturalistic%20inquiry.%20Sage&f=false)
- Maisura, M., Ulandary, Y., Murnaka, N. P., Azhari, D. S., Erliana, L., & Ahyani, E. (2023). Strategi manajemen pendidikan dalam meningkatkan kualitas pembelajaran PAI di era digital. *Indo-MathEdu Intellectuals Journal*, 4(3), 2733-2747. <https://doi.org/10.54373/imeij.v4i3.593>
- Meesuk, P., Wongrugsa, A., & Wangkaewhiran, T. (2021). Sustainable teacher professional development through professional learning community: PLC. *Journal of Teacher Education for Sustainability*, 23(2), 30-44. <https://doi.org/10.2478/jtes-2021-0015>
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis*. sage. [https://books.google.com.ng/books?hl=en&lr=&id=3CnRUBtu6CsC&oi=fnd&pg=PR1&dq=Miles,+M.+B.,+Huberman,+A.+M.,+%26+Salda%2C%20B1a,+J.+\(2020\).+Qualitative+data+analysis:+A+methods+sourcebook+\(4th+ed.\).+&ots=Lj82lkUO1f&sig=w-aOeE4jz_3-gYpnXZLXjblV2U&redir_esc=y#v=onepage&q&f=false](https://books.google.com.ng/books?hl=en&lr=&id=3CnRUBtu6CsC&oi=fnd&pg=PR1&dq=Miles,+M.+B.,+Huberman,+A.+M.,+%26+Salda%2C%20B1a,+J.+(2020).+Qualitative+data+analysis:+A+methods+sourcebook+(4th+ed.).+&ots=Lj82lkUO1f&sig=w-aOeE4jz_3-gYpnXZLXjblV2U&redir_esc=y#v=onepage&q&f=false)
- Olmo-Extremiera, M., Fernández-Terol, L., & Domingo-Segovia, J. (2024). Leading a professional learning community in elementary education: A systematic review of the literature. *Journal of Research on Leadership Education*, 19(1), 53-76. <https://doi.org/10.1177/19427751221145207>
- Parker, M., Patton, K., Gonçalves, L., Luguetti, C., & Lee, O. (2022). Learning communities and physical education professional development: A scoping review. *European Physical Education Review*, 28(2), 500-518. <https://doi.org/10.1177/1356336x211055584>
- Polat, A. (2025). Thematic analysis in qualitative research: Common pitfalls and practical insights for academic writing. *International Journal of Qualitative Methods*, 24, 16094069251372835. <https://doi.org/10.1177/16094069251372835>
- Prenger, R., Poortman, C. L., & Handelzalts, A. (2021). Professional learning networks: From teacher learning to school improvement?. *Journal of Educational Change*, 22(1), 13-52. <https://doi.org/10.1007/s10833-020-09383-2>
- Rahmawati, T. (2021). The Concept of Professional Learning Community By Teacher Group in Developing Religious Work Culture At LPIT Nurul Fikri Juwana. *QUALITY*, 9(1), 137-156. <https://doi.org/10.21043/quality.v9i1.10010>
- Revina, S., Pramana, R. P., Bjork, C., & Suryadarma, D. (2023). Replacing the old with the new: long-term issues of teacher professional development reforms in Indonesia. *Asian Education and Development Studies*, 12(4-5), 262-274. <https://doi.org/10.1108/aeds-12-2022-0148>
- Sims, S., Fletcher-Wood, H., O'Mara-Eves, A., Cottingham, S., Stansfield, C., Goodrich, J., ... & Anders, J. (2025). Effective teacher professional development: New theory and a meta-analytic test. *Review of educational research*, 95(2), 213-254. <https://doi.org/10.3102/00346543231217480>

Tanjung, R. R., Ritonga, A. A., Abdullah, B. M., Siregar, N. A., & Armilah, A. (2024). Digital transformation in education: Improving the quality of learning through technology. *Sinar Dunia: Journal of Social, Humanities, and Educational Research*. <https://doi.org/10.58192/sidu.v3i2.2195>

Yin, R. K. (2018). *Case study research and applications* (Vol. 6). Thousand Oaks, CA: Sage. https://d1wgtxts1xzle7.cloudfront.net/106905310/Artikel_Yustinus_Calvin_Gai_Mali-libre.pdf?1698189983=&response-content-disposition=inline%3B+filename%3DA_Book_Review_Case_Study_Research_and_Ap.pdf&Expires=1779450345&Signature=FTJ1yktucOTtRMMJB-dfkQpbctd-f9MK5mBPZFphtfpUalbT91xAoz86hoZWZtmBi1ncsVTTpWTEPe5i1AhiHrdi8gvqKYUs-vapzmANicQD6kDhbBM-I-iC8ItR0kNh8P3Ng3ieR7YE5HfbngDP9RuWjJL0ep1dMtwueyO32HbC7Nhr5-cSOYnAwN5GwogGreYrTS6I25qFlskOSkQUk2CIE0QLTcmaUf6z3s6X2f5Go3TZlrspPsDRdhL6H4lzRChIdOq1VjDF12~GC GcX7Vs8-Q~4L9TIBuS7M5bO--GJo3qIH--SsZdNVEzg079bVY~KzrUqAHDPeP~10QjPAQ_&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA

Zhang, J., Huang, Q., & Xu, J. (2022). The relationships among transformational leadership, professional learning communities and teachers' job satisfaction in China: what do the principals think? *Sustainability*, 14(4), 2362. <https://doi.org/10.3390/su14042362>