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Developing a community-based academic supervision model: A strategic reform for enhancing professional learning in Indonesian primary schools

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ARTICLE INFO	ABSTRACT
	Academic supervision in Indonesian primary schools remains predominantly administrative and often fails to support teachers' professional development effectively. This study aims to develop and evaluate the effectiveness of a community-based academic supervision model, which adopts a collaborative, reflective, and contextual approach to enhance learning quality and teacher capacity. This supervision model is constructed using a research and development (R&D) framework that includes needs analysis, expert validation, limited trials, and effectiveness assessment. Implementation took place in two elementary schools in Wonosobo Regency, involving teachers, principals, and supervisors. The findings demonstrate that the model significantly enhances teachers' pedagogical competencies, particularly in instructional planning, diversification of teaching strategies, and reflective practice. Moreover, the model fosters a shift in teachers' attitudes toward supervision—from passive and bureaucratic to active, participatory, and community-driven. The supervision cycle—comprising joint planning, reflective observation, collaborative reflection forums, and follow-up development—contributes to the establishment of a sustainable professional learning culture. Furthermore, the integration of local cultural values into the model's implementation reinforces both social acceptance and contextual effectiveness in rural school settings. These results highlight the potential for transforming academic supervision into a meaningful professional learning process through a participatory, community-based approach that aligns with national education policy directions, emphasizing autonomy and innovation. **Keywords:** academic supervision, community-based model, teacher professional development, collaborative learning, educational innovation

INTRODUCTION

Improving the quality of basic education remains a strategic priority in the broader national education development agenda. As the foundation of formal education, elementary schools play a pivotal role in shaping students' initial academic abilities and character development (Aningsih et al., 2022). To ensure the quality of instructional processes, academic supervision has been institutionalized within the education management system, functioning not only as an evaluative mechanism but also as a vital means for teachers' professional growth in lesson planning, classroom implementation, and reflective teaching (Chaula et al., 2024; Mandefro, 2020). Empirical studies affirm that adequate academic supervision can enhance both teacher competence and classroom performance (Fahmi et al., 2019; Setyaningsih, 2022).

Within this framework, academic supervision serves as a support mechanism for teacher development, grounded in systematic and needs-based guidance (Kalinowski et al., 2019; Noor et al., 2020). Its core principles are based on the provision of constructive feedback and the promotion of continuous improvement in pedagogical practices (Fahmi et al., 2019; Herman & Khalaf, 2023). Beyond procedural compliance, impactful supervision necessitates the cultivation of a learning-oriented school culture and the reinforcement of reflective practices among educators (Bainbridge et al., 2022; Davys et al., 2019). Supervision should be a collaborative process that engages teachers as active agents in enhancing instructional quality (Wiyono et al., 2021).

However, despite these conceptual strengths, the practical implementation of academic supervision in Indonesian primary schools continues to encounter substantial obstacles. Many supervision practices remain predominantly administrative and formalistic, often disconnected from the

complexities of classroom teaching and teachers' real professional needs (Fahmi et al., 2019). In practice, supervision is frequently reduced to compliance-oriented activities, such as document completion and one-time observations, with limited attention to ongoing support, constructive feedback, or opportunities for sustained professional learning. As a result, these practices have minimal impact on meaningful pedagogical improvement or the development of reflective teaching competencies (Cansoy et al., 2025; Haris et al., 2018). The situation is even more challenging in resource-constrained rural and semi-urban areas, where limited personnel and institutional capacity further widen the gap between policy expectations and classroom realities (Werdiningsih, 2024). Collectively, these conditions highlight a critical disconnect between the formal objectives of academic supervision and its actual outcomes, underscoring the urgent need for a more adaptive, participatory, and context-sensitive supervision model that truly supports sustained professional development for teachers.

In response to these persistent challenges, the Indonesian Ministry of Education's "Merdeka Belajar" policy emphasizes the importance of increased autonomy, innovation, and contextual relevance in educational practice (Margaretha et al., 2024). Nevertheless, existing frameworks for academic supervision frequently remain misaligned with these policy directions. The anticipated transformation of academic supervision, from functioning solely as an evaluative mechanism to serving as an authentic facilitator of teachers' professional growth (Herman & Khalaf, 2023; Nisa et al., 2024), is seldom realized at the school level, particularly in regions such as Wonosobo Regency. Barriers such as inadequate supervisor training, limited opportunities for professional collaboration, and insufficient infrastructure continue to impede progress. As a result, a significant knowledge gap persists because current supervision models largely lack effective strategies for incorporating community participation, local cultural values, and collaborative processes, and consequently fail to address the distinctive needs of primary schools operating in resource-constrained environments.

To address these deficiencies, this study proposes a novel Community-Based Academic Supervision Model that systematically integrates participatory leadership, reflective pedagogy, and local cultural values into the supervision process. This model represents a substantive departure from conventional approaches by actively engaging school communities and embedding supervision within the broader sociocultural context. These aspects have received limited attention in previous research and practice. Through the application of a research and development framework, the model incorporates key stages such as literature synthesis (Davis et al., 2020), needs analysis (Shahril et al., 2024), expert validation (Gray et al., 2021), and pilot implementation (Valentijn et al., 2017). The primary aim is to foster sustainable professional learning through the establishment of Professional Learning Communities (PLC) within schools.

The novelty and originality of this study lie in its systematic effort to advance the state of the art in academic supervision. This is achieved by positioning the broader school community—not only teachers and principals—as active partners in the supervision process. Furthermore, the study empirically examines the effectiveness of this participatory approach within authentic school environments. The primary objective is to develop and validate a community-based academic supervision model that integrates participatory leadership, reflective pedagogy, and local cultural values, ensuring its suitability for diverse and resource-limited Indonesian primary schools. To guide this inquiry, the study is directed by the following research question: How can a community-based academic supervision model effectively improve teaching practices and teacher professional development in resource-constrained elementary schools? The study contributes to ongoing national education reform efforts and offers a scalable model to improve the quality and relevance of community-based education.

LITERATURE REVIEW

Academic Supervision and Professional Development of Teachers

Academic supervision constitutes a critical component of the education management system, aimed at enhancing the quality of teaching and learning through structured professional support for teachers. This process typically involves school principals and external supervisors who collaborate to strengthen teaching competencies and improve student learning outcomes (Fahmi et al., 2019; Werdiningsih, 2024). Within the primary school context, the primary objective of supervision is to ensure that instructional practices are effective, contextually relevant, and aligned with national education standards. Adequate academic supervision encompasses four key stages: planning, implementation, evaluation, and follow-up actions (Noor et al., 2020; Werdiningsih, 2024).

The role of school principals as instructional leaders is pivotal in this regard, as they must strike a balance between managerial oversight and pedagogical guidance to enhance teacher performance (Herman & Khalaf, 2023; Mette et al., 2017). Supervision techniques commonly employed include classroom observations, collaborative discussions, and individualized feedback sessions (Fahmi et al., 2019). When executed effectively, these strategies can lead to significant improvements in both teacher competencies and student academic achievement (Herman & Khalaf, 2023; Noor et al., 2020). Accordingly, academic supervision should not be viewed merely as an evaluative task but as a developmental mechanism that fosters teacher growth through structured reflection, collegial dialogue, and constructive feedback.

In practice, collaborative models of academic supervision are more effective than traditional evaluative approaches. The integration of peer collaboration and active engagement in supervision processes is positively correlated with improved student outcomes and overall school performance (Allen et al., 2020; Griffiths et al., 2020). Furthermore, supervision that is oriented toward professional development contributes to the cultivation of a deep learning culture within schools, positively influencing not only academic achievement but also the holistic development of students (Afriadi et al., 2023; Yani et

al., 2024). Therefore, an ideal supervision framework harmonizes managerial and pedagogical functions while simultaneously enhancing teachers' capacity to design and implement innovative, student-centered learning strategies.

Collaborative and Community-Based Supervision Models in a Global Perspective

Globally, many education systems have adopted supervision approaches that emphasize professional collaboration among educators. In Japan, the practice of lesson study exemplifies a community-based supervision model, engaging teachers in a continuous cycle of planning, implementation, observation, and collective reflection on teaching practices (Seleznyov, 2018). While this model has gained global traction, its international adaptations often diverge from the original framework due to contextual differences (Norwich, 2018). In Finland, reflective supervision is employed to empower teachers through open dialogue and professional mentoring, encouraging introspective evaluation of classroom practices (Paju et al., 2022). Similarly, in Canada and the United Kingdom, instructional coaching has emerged as a supervision mechanism based on partnerships between teachers and learning coaches, fostering a non-hierarchical and developmental approach to professional support (Stewart & Lane, 2021).

In the Indonesian context, collaborative supervision and collegial approaches have been demonstrated to have a positive impact on performance-based teaching practices (Wiyono et al., 2021). These approaches share key characteristics with international models, particularly in their emphasis on professional dialogue, formative feedback, and the active involvement of teachers in the supervision process. The common thread across these global practices is the shift from hierarchical oversight to participatory engagement, where teachers are positioned as co-constructors of pedagogical improvement.

Moreover, recent studies highlight the importance of PLC in promoting teacher innovation and instructional effectiveness. Supervision integrated within PLC frameworks has been shown to strengthen instructional leadership and promote pedagogical innovation (Liu et al., 2022). PLC fosters collaborative professional practices, supports sustainable digital transformation, and reinforces the principle of lifelong learning for educators (Krabonja et al., 2024). Instructional leadership within PLC cultivates shared responsibility and continuous professional development (García-Martínez et al., 2018; Hassan et al., 2019). Consequently, transitioning academic supervision toward a collaborative, community-based model not only improves instructional quality but also contributes to building a school culture that sustains professional learning and growth over time.

Integration of Local Cultural Values in Educational Supervision

In the Indonesian educational context, adequate academic supervision must be attuned to the sociocultural realities of local communities (Suyanto et al., 2024). Education functions not only as an institutional process but also as an integral part of a broader social ecosystem shaped by indigenous values, norms, and local wisdom (Prihatmojo et al., 2024). The success of educational policies and interventions is often contingent upon their cultural adaptability and contextual relevance (Fisher, 2021). Accordingly, culturally responsive supervision approaches offer significant potential to enhance the acceptance, effectiveness, and sustainability of supervision programs at the school level.

Active community involvement in academic supervision can cultivate a strong sense of ownership and foster meaningful participation from various stakeholders, including principals, teachers, supervisors, and community members. Evidence suggests that community-based academic supervision fosters trust and enhances the relational dynamics between supervisors and teachers, particularly in remote or underserved schools (Haris et al., 2018; Juharyanto et al., 2020). Sundari (2023) emphasizes the relevance of cultural management in education, arguing that local wisdom profoundly influences pedagogical practices. Complementing this, Samawi et al. (2019) found that supervision rooted in school culture can improve instructional quality through openness and collaborative engagement. These insights suggest that integrating local cultural values into supervision practices fosters social legitimacy, transforming supervision into a collective, culturally grounded process that promotes shared learning and sustained professional growth.

State of the Art and Research Gap

Several studies on academic supervision in schools have been conducted and underline its important role in improving teacher performance and enhancing the quality of teaching. Wiyono et al. (2021) assert that collaborative and collegial supervision techniques positively influence performance-based teaching practices, although their effect on student learning outcomes tends to be less direct. Herman and Khalaf (2023) emphasize that the effectiveness of supervision is largely determined by the principal's leadership in the planning, implementation, and evaluation of supervisory activities. However, they also note the absence of sustained follow-up as a persistent limitation. Similarly, Julianda et al. (2024) contend that systematic supervision conducted by school leaders contributes not only to teacher competence but also to improved student achievement. Furthermore, Komariah et al. (2019) propose a model based on PLC to foster reflective dialogue among educators and support ongoing professional development.

Despite these advancements, a notable gap persists in the extant literature. Most existing models do not explicitly address the unique needs of primary schools situated in resource-constrained or rural areas. The effectiveness of supervision in such contexts is often impeded by limited institutional capacity, restricted access to professional development opportunities, and insufficient alignment with the sociocultural realities of local communities. Moreover, only a limited number of studies have empirically investigated the implementation of supervision models that integrate national education reforms—such as the Independent Learning policy—with contextual adaptability and long-term sustainability. Consequently, there remains a pressing need for models that extend beyond theoretical constructions and demonstrate practical applicability across diverse school environments.
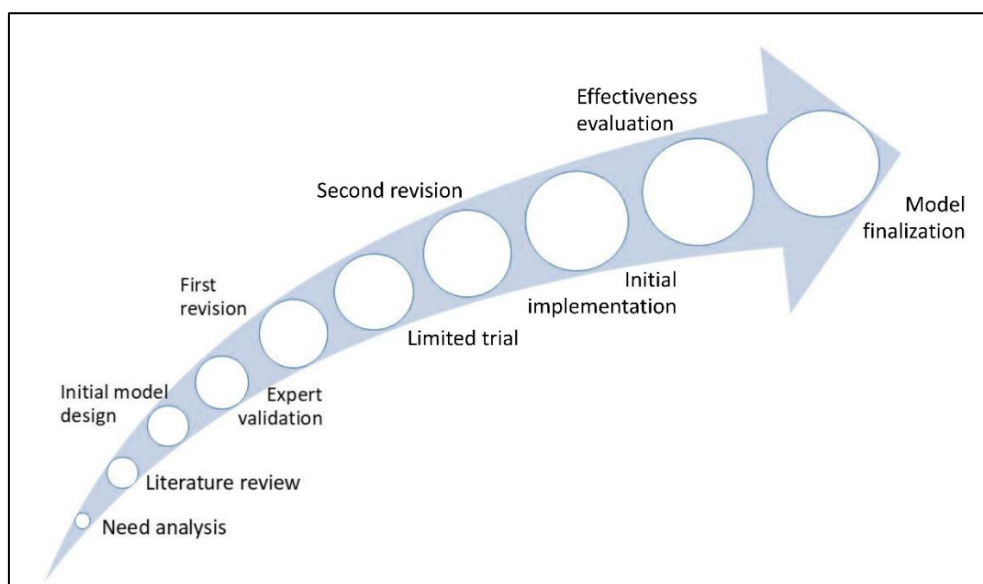
Figure 1. Procedural design of the model development (Source: Authors' design based on Gal et al., 2014)

In addition, current approaches to academic supervision in Indonesia are predominantly focused on institutional actors within the school system, particularly principals and teachers. While several studies highlight the significance of internal collaboration, for instance, between school leaders and teaching staff (Herman & Khalaf, 2023; Wiyono et al., 2021), the potential contribution of wider community involvement is frequently overlooked. Even PLC-based models, such as those suggested by Komariah et al. (2019), are often limited to interactions among educators. Addressing this limitation requires the development of an academic supervision model that systematically incorporates community participation, embeds local cultural values, and fosters shared responsibility for teacher professional growth. A community-based model of supervision has the potential to bridge institutional and social dimensions, thereby enhancing the relevance, acceptance, and sustainability of professional learning in primary education.

METHODOLOGY

Research Design

This study employed a Research and Development (R&D) approach based on the model proposed by Gall et al. (2014). This methodology was selected for its capacity to support the systematic design, development, and validation of educational innovations that are responsive to contextual needs. The core product of this study is the Community-Based Academic Supervision Model, which aims to enhance teachers' instructional practices and professional development in primary school settings.

The research procedure followed the ten-stage sequence outlined in the Borg and Gall model (Gal et al., 2014):

1. Needs analysis,
2. Literature review,
3. Initial model design,
4. Expert validation,
5. Limited trial,

6. Second revision,
7. Preliminary implementation,
8. Effectiveness evaluation, and
9. Final model refinement.

Each stage was carried out progressively and iteratively to ensure internal consistency between research objectives, model design, and implementation strategies. The complete procedural framework of this study is illustrated in **Figure 1**.

Location and Research Subject

This study was conducted in two public elementary schools located in Wonosobo Regency, Central Java Province, Indonesia. The research sites were selected purposively based on their geographical and sociocultural characteristics, which include limited educational resources, low intensity of professional supervision, and restricted access to teacher development programs. These contextual features reflect the real conditions of many rural schools and provide a relevant testing ground for the proposed supervision model. The research subjects consisted of school principals, classroom teachers, and school supervisors who were directly involved in planning and implementing academic supervision activities.

Data Collection Techniques and Instruments

To achieve a comprehensive understanding of the research context, model needs, and its effectiveness, both qualitative and quantitative data collection methods were employed. The data collection techniques included analysis of policy documents and supervision instruments, classroom observations focusing on instructional implementation, and structured questionnaires to capture teachers' perceptions and developmental needs. Additionally, in-depth interviews and focus group discussions (FGD) were conducted to explore participants' experiences, perceptions, and critical reflections on current supervision practices. Student academic achievement was also assessed using instruments aligned with the indicators of the Indonesian National Education
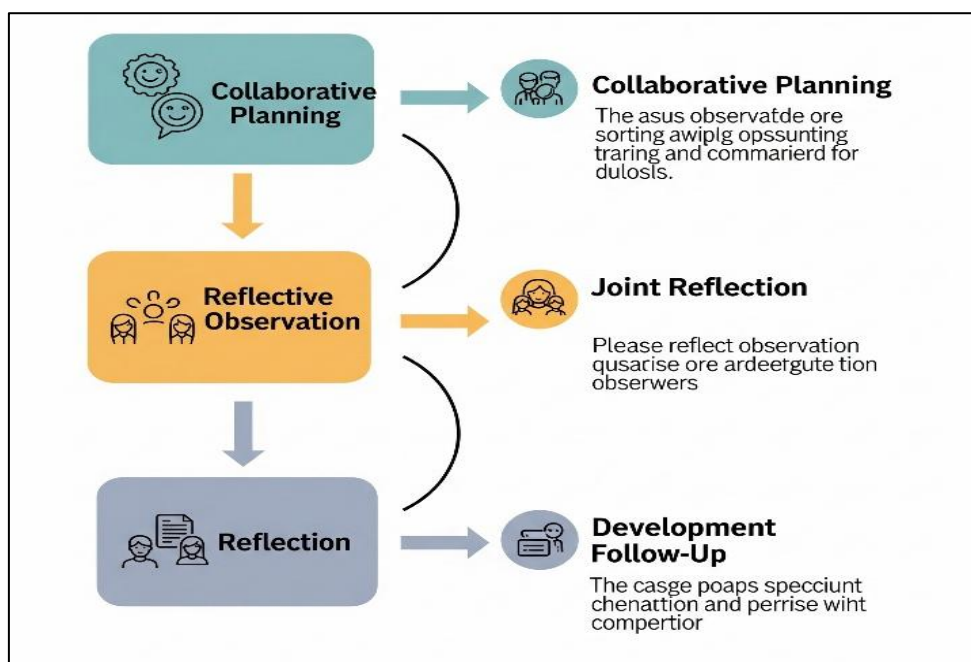
Figure 2. Conceptual schema of model implementation cycle (Source: Author's design based on Mendikbudristek Regulation No. 32/2022)

Standards, which complemented the evaluation of teaching effectiveness.

The instruments used in this study consisted of classroom observation sheets, teacher-reflective self-assessment rubrics, semi-structured interview guides, and perception-based questionnaires on academic supervision. These instruments were designed to capture both behavioral indicators and attitudinal responses, ensuring a multidimensional assessment of the model's impact. To ensure the reliability and validity of the instruments, internal consistency tests were conducted using the Kuder-Richardson Formula 20 (KR-20) for dichotomous items and Cronbach's Alpha for Likert-type scales. This dual approach ensured that the measurement tools met acceptable standards for educational research.

Expert Validation and Model Trials

Expert validation of the model was conducted by engaging three educational experts with specialization in school supervision, educational management, and curriculum development. The validation process employed the Delphi technique, allowing for iterative refinement through two rounds of expert input. Feedback focused on the conceptual clarity, operational procedures, and practical applicability of the model in primary school settings. Revisions were made accordingly to enhance its alignment with the national education framework and to ensure feasibility in resource-limited environments.

Following validation, a limited trial of the model was conducted in two elementary schools, involving 10 classroom teachers who participated in a collaborative supervision cycle. The trial phase included structured lesson observations, joint reflection sessions, and collaborative follow-up planning. Prior to implementation, participating teachers received brief training on the principles of reflective and collaborative supervision to foster a shared understanding and engagement.

Feedback on the trial was collected through teacher reflection sheets and semi-structured interviews. At the same time, the effectiveness of the model was assessed based on improvements in pedagogical competence and participation in professional learning activities.

Model Implementation Framework

The implementation framework of the Community-Based Academic Supervision Model is structured into four interconnected stages:

(1) Collaborative planning,

(2) Reflective observation,

(3) Shared reflection, and

(4) Development follow-up.

In the first stage, teachers, school principals, and supervisors jointly identify instructional challenges and determine the focus of supervision. Observations are conducted in a non-authoritative and formative manner using structured instruments designed to facilitate developmental feedback. The third stage involves dialogical reflection in professional learning community forums, where participants exchange experiences and collaboratively generate instructional strategies. The final stage involves the development and periodic review of instructional action plans to achieve continuous improvement. A visual representation of this implementation cycle is presented in **Figure 2.**

Data Analysis

This study employed a convergent parallel mixed methods approach to analyze the collected data. In this design, both qualitative and quantitative data were processed and interpreted concurrently to enable a comprehensive and integrative understanding of the model's effectiveness. Quantitative data analysis was conducted using the paired

sample t-test to measure differences in teacher competence before and after the implementation of the Community-Based Academic Supervision Model. The pre-test and posttest results were processed using statistical software, ensuring the accuracy and validity of the findings through appropriate significance testing. These tests enabled a statistical determination of whether the observed improvements in teacher performance were meaningful and consistent across the sample.

In parallel, qualitative data were analyzed using thematic analysis, a method suitable for identifying, analyzing, and reporting patterns (themes) within narrative data. Thematic coding was applied to data gathered from interviews, focus group discussions, and teacher reflection sheets. This process enabled the identification of recurring themes related to participants' experiences, perceptions of supervision practices, and the perceived value of the implemented model. Through iterative reading and coding, themes such as teacher empowerment, increased collegiality, and shifts in supervisory culture emerged, providing nuanced insights that complemented the quantitative results.

Triangulation of the data from both sources strengthened the internal validity of the findings. The results consistently indicated that the implemented model successfully transformed academic supervision from a predominantly evaluative practice into a process-oriented approach focused on professional development. Furthermore, the model fostered the establishment of active and contextually relevant learning communities within the school environment. These communities promoted reflective dialogue, collective problem-solving, and practice-based follow-up, ultimately enhancing teachers' engagement and instructional competence. Collectively, the data confirms the model's potential as a strategic and context-sensitive alternative for academic supervision reform, particularly in resource-constrained educational settings.

RESULTS

The findings of this study demonstrate the successful development and initial implementation of the Community-Based Academic Supervision Model in enhancing the professional capacity of elementary school teachers. During the expert validation phase, several improvements were made to the model design, particularly in strengthening the collective reflection component and the structure of the professional learning community. Following revisions, the model was deemed feasible for field testing, with a recommendation that its practical effectiveness be empirically validated through the active involvement of teachers and school principals in real-school contexts.

The application of the model in two elementary schools yielded positive responses from all participants involved. Teachers demonstrated increased engagement in the supervision process and actively participated in each phase of the professional learning cycle. Activities within the PLC began to establish collaborative patterns among teachers, particularly in lesson planning, reflection, and instructional improvement. Teachers reported greater openness in sharing

Table 1. Instrument reliability index for trial phase

SN	Indicator	Value
1	Number of Items	40
2	Kuder-Richardson (KR-20)	0.712
3	Cronbach's Alpha Based on Standardized Items	0.728
4	Mean Item Difficulty (Pre-Test)	0.52
5	Mean Item Difficulty (Post-Test)	0.61

experiences, responding to feedback, and formulating teaching strategies that were more responsive to the diverse needs of their students.

A quantitative analysis of pedagogical competence revealed a statistically significant improvement in teacher performance following the implementation of the model. A paired-sample t-test yielded a significance value of less than 0.05, confirming a statistically significant difference between the pre-test and posttest instructional competence scores. The areas showing the most improvement included lesson planning aligned with learning objectives, diversification of instructional methods, and the strengthening of classroom management practices. These results substantiate the model's effectiveness in enhancing professional competence through a structured and participatory supervision process.

In parallel, the evaluation of the instruments used during the trial phase showed satisfactory levels of reliability. The internal consistency of the teacher observation and reflection instruments, as measured by the KR-20 and Cronbach's Alpha, was 0.712 and 0.728, respectively—indicating acceptable reliability. Furthermore, analysis of the pre-test and posttest items showed an increase in the difficulty index from 0.52 to 0.61, suggesting a more rigorous and discriminative assessment post-intervention. These results are summarized in **Table 1**.

Qualitative data from teacher interviews and reflective journals revealed significant shifts in teachers' perceptions of academic supervision. Participants no longer regarded supervision as merely a formal or evaluative procedure but rather as a collaborative and developmental learning space. Teachers reported that participation in the ongoing reflective process increased their sense of value, confidence, and intrinsic motivation to innovate within their teaching practices. The model was perceived as empowering and supportive, especially in fostering a shared professional identity.

School principals and supervisors also reported noticeable improvements in professional coordination and communication within the school. The reflective cycle promoted dialogue among educational stakeholders—dialogue that was largely absent under conventional supervision approaches. They observed that teachers became more receptive to feedback and demonstrated greater intentionality in developing follow-up action plans. Notably, the role of the supervisor has evolved from that of a mere evaluator to a facilitator of teacher growth, thereby strengthening the supervisory function as an essential element of instructional leadership.

The implementation of the model was consistent and effective across both school sites. All phases of the model, including collaborative planning, reflective observation, joint

reflection forums, and follow-up instructional development, were executed as intended. Each phase contributed to the formation of a school-based supervision culture characterized by inclusivity, shared responsibility, and a sustained focus on professional improvement.

Overall, the results confirm that the Community-Based Academic Supervision Model holds significant potential for improving the quality of academic supervision and teacher development in under-resourced elementary schools. The model successfully transitions supervision from an administrative obligation into a catalyst for collaborative learning and continuous professional transformation. These empirical findings provide a strong foundation for scaling the model to broader educational contexts, with the potential to inform policy and practice in similar settings.

DISCUSSION

The findings of this study indicate that the Community-Based Academic Supervision Model successfully addresses core challenges in current supervisory practices in Indonesian elementary schools, particularly the lack of reflective, participatory, and contextual dimensions. The significant improvement in teacher competence following implementation suggests that when supervision is designed as a collaborative process, it can serve as a sustainable mechanism for professional development rather than functioning merely as an evaluative instrument. These results are consistent with theoretical perspectives asserting that collaboration, reflection, and local contextualization are critical elements in transforming academic supervision into a meaningful and effective process (Herman & Khalaf, 2023; Noor et al., 2020; Wiyono et al., 2021).

One of the most notable contributions of the model is its capacity to transform teachers' perceptions of supervision. Prior to implementation, supervision was often regarded as administrative, hierarchical, and compliance-driven. However, through participation in the model's cyclical supervision process, teachers began to demonstrate more open, reflective, and improvement-oriented attitudes. This shift aligns with the findings of Allen et al. (2020) and Griffiths et al. (2020), who emphasize that adequate supervision should elevate teachers' roles as professional learners rather than merely being evaluated. Likewise, studies by Afriadi et al. (2023) and Yani et al. (2024) reinforce the value of supervision practices centered on dialogue and reflection in fostering long-term professional growth.

The integration of PLC within the model proved particularly effective in creating a collaborative and psychologically safe environment for professional dialogue and learning. Teachers not only discussed instructional challenges, but also collaboratively designed context-specific solutions grounded in shared experiences. This finding illustrates the impact of a community-based approach in enhancing instructional quality. As Liu et al. (2022) note, embedding PLC within school structures strengthens teacher leadership and fosters institutional self-reliance in addressing pedagogical issues. In the context of this study, the PLC functioned as the central mechanism for enacting and sustaining the supervision model.

From an education management perspective, the involvement of school principals and supervisors in reflective processes extended their roles beyond administrative oversight. They acted as facilitators of dialogue and co-learners in teacher development, which is in line with the perspective of Mette et al. (2017) and Herman and Khalaf (2023), who conceptualize instructional leadership as essential for school improvement. Feedback gathered from teachers and supervisors during the transition process highlighted both enthusiasm for increased collaboration and initial apprehension about new responsibilities. Some participants expressed concerns regarding the shift from a familiar administrative approach to a more participatory, community-based model. Over time, however, most reported greater satisfaction, a stronger sense of professional identity, and increased motivation for continuous improvement.

A further strength of the model lies in its cultural responsiveness, especially its incorporation of local values and social norms. In the Wonosobo Regency context, recognizing local wisdom and community practices enhanced the acceptability and relevance of the supervision process. As emphasized by Fisher (2021), the effectiveness of educational reform depends heavily on its adaptability to local sociocultural conditions. By embedding these elements, the model demonstrated both conceptual robustness and contextual adaptability, making it suitable for broader application in culturally diverse educational environments.

Nevertheless, several limitations and challenges were encountered during the research process. Resistance to change was observed among some staff, particularly those accustomed to traditional supervisory roles. This finding is supported by Chua et al. (2020), who stated that teacher resistance and passivity hindered PLC development. Resource constraints—such as limited time, excessive workload, lack of leadership support, and insufficient numbers of qualified supervisors—also hampered the sustainability of PLC activities (Chua et al., 2020; Suglo et al., 2024). Furthermore, maintaining the engagement of all stakeholders presented challenges, particularly during busy periods of the academic calendar. These constraints highlight the importance of ongoing leadership support, clear communication, and adequate resource allocation to ensure the model's successful and sustainable implementation. It is recommended that future implementations include structured orientation sessions for all stakeholders to better prepare them for organizational changes and encourage greater buy-in. Establishing clear roles and expectations can further reduce resistance and foster a culture of collaboration.

Sustained changes in teacher behavior and attitudes also reflect the model's ability to support long-term professional development. The structured, cyclical nature of reflective supervision encouraged teachers to continuously evaluate and refine their instructional practices in collaboration with peers. This process closely mirrors the principles of lesson study in Japan, where systematic peer reflection fosters sustainable improvements in teaching quality (Seleznyov, 2018). The emergence of internal motivation and peer accountability

further contributed to the professional autonomy promoted by the model.

An equally important outcome was the enhanced synergy between teachers, principals, and supervisors. Strengthening communication and professional coordination across stakeholder roles was foundational in fostering effective school-based professional development. Field observations revealed that when teachers feel heard and supported, their commitment to instructional improvement increases. This finding aligns with Wiyono et al. (2021), who emphasize the importance of collaborative supervision in fostering interpersonal relationships and promoting organizational learning. In the model developed here, joint planning and reflective discussions became vehicles for building a culture of shared responsibility and institutional coherence.

The reliability of the instruments used to assess teacher competence and instructional behavior further substantiates the model's methodological strength. The internal consistency, as demonstrated by the KR-20 and Cronbach's Alpha values, confirmed that the tools were reliable for monitoring changes in teaching practices. Accurate and valid measurement instruments are crucial to ensure that reflection and feedback processes are based on credible data, enabling more targeted professional interventions (Kalinowski et al., 2019; Noor et al., 2020).

Notably, the model aligns well with Indonesia's current national education policy, Merdeka Belajar, which emphasizes teacher autonomy, contextual innovation, and local relevance (Yuhastina et al., 2020). By enabling teachers to design and adapt instructional practices in response to their specific classroom challenges, the model advances the policy's core objectives, as supported by Lestari et al. (2024). For broader implementation, several steps are recommended. These include developing standardized training modules, leveraging digital platforms for wider dissemination, and fostering partnerships with local educational authorities. Policy adjustments that facilitate greater institutional support and capacity-building should also be considered to support the scaling and institutionalization of community-based supervision practices across regions.

To ensure the sustainability of the professional learning culture established by the model, several key mechanisms should be put in place. These include the integration of ongoing professional development programs, the establishment of peer support networks, and the embedding of reflective practices into routine supervision activities. School leadership should play an active role in maintaining the momentum of PLC and supporting continuous learning for all staff members (Admiraal et al., 2021; Haiyan & Allan, 2021). Regular monitoring and feedback can help identify areas where additional support is needed and reinforce the importance of shared professional growth. Furthermore, creating opportunities for teachers to share successful strategies and challenges with colleagues from other schools can broaden perspectives and strengthen the overall professional learning ecosystem, as supported by Admiraal et al. (2021) and Chen and Zhang (2024).

Despite its strengths, this study acknowledges several limitations. The model was piloted in only two elementary schools with specific sociocultural and geographic characteristics, which limits the generalizability of the findings. Furthermore, the formation and sustainability of PLC require long-term commitment and institutional support. As Krabonja et al. (2024) cautioned, the success of PLC depends heavily on the presence of continuous leadership backing and embedded support mechanisms. For future research, it is recommended to conduct longitudinal studies to assess the model's long-term impact, undertake comparative analyses across regions, and investigate the model's adaptability in diverse cultural and institutional contexts. Exploring the role of digital technology in supporting supervision and professional development in remote or under-resourced schools is also warranted. Therefore, broader adoption of this model should be accompanied by strategies to build institutional capacity and ensure policy alignment that supports reflective supervision practices on scale.

In summary, this study reaffirms that academic supervision, when designed to be contextual, collaborative, and reflective, can serve as a powerful tool for building a professional learning culture in primary schools. The model presented is not only aligned with national policy directions but also responsive to the local realities often overlooked by standardized supervision approaches. With its conceptual clarity, methodological rigor, and contextual sensitivity, the Community-Based Academic Supervision Model offers a promising and scalable pathway for improving instructional quality and teacher development in Indonesia's elementary education system.

CONCLUSIONS

The Community-Based Academic Supervision Model developed in this study has demonstrated its effectiveness in strengthening the professional coaching aspect of academic supervision practices at the elementary school level. Implementation of the model resulted in significant improvements in teachers' pedagogical competencies, particularly in instructional planning, the use of varied teaching strategies, classroom management, and reflective practice. Beyond technical advancements, the model also facilitated a perceptual shift among teachers, transforming supervision from a passive, compliance-driven obligation into an active, collaborative process that emphasizes self-improvement and continuous learning.

Moreover, the model contributed to a positive transformation in school culture by promoting open communication, enhancing professional relationships, and fostering collective responsibility among teachers, principals, and supervisors. The establishment of PLC through the model provided an effective platform for collegial dialogue and ongoing professional development. Additionally, the integration of local cultural values increased both the acceptability and contextual relevance of the model, particularly in resource-constrained and socio-culturally diverse school environments.

Despite these successes, the study acknowledges several challenges, including resistance to change, resource limitations, and the ongoing need for strong leadership

support to ensure the sustainability of PLC. Addressing these barriers will be essential for broader implementation and long-term success. Future initiatives should focus on developing standardized training modules, leveraging digital support systems, and fostering partnerships with educational authorities to facilitate wider dissemination and adaptation of the model. Ultimately, the Community-Based Academic Supervision Model offers a replicable and scalable framework for participatory, context-sensitive teacher development that aligns with national educational reform efforts and supports the enhancement of student learning outcomes.

Author contributions: AIB, LY, & SR: conceptualization; **AIB:** methodology, software, writing - original draft, writing - review & editing; **LY:** formal analysis, validation; SR: investigation, supervision. All authors have agreed with the results and conclusions.

Ethical statement: The authors stated that This study was conducted in accordance with established research ethics guidelines under the supervision of the doctoral supervisor, who is also a member of the Research Ethics Committee at Universitas Negeri Yogyakarta. The authors further stated that no formal ethics approval code was required for the study. All participants provided informed consent prior to their participation. To ensure privacy and maintain confidentiality, all personal identifiers were anonymized in the reporting of the findings.

AI statement: The authors acknowledge the use of ChatGPT 4.0 to proofread and enhance the readability of the manuscript in alignment with academic writing conventions, as well as Grammarly to refine grammatical accuracy. Both tools were used solely for language and style improvements, with full responsibility for the content and interpretations remaining with the authors.

Declaration of interest: The authors affirm that there are no conflicts of interest in the composition and dissemination of this study.

Data sharing statement: Data supporting the findings and conclusions are available upon request from corresponding author.

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