

From Collaboration to Innovation: Strengthening Teacher Reflection and Professionalism Through Lesson Study for Learning Community

Laela Sagita^{1*}, Niken Wahyu Utami², Darsono³, Muhardila Fauziah⁴

¹Teacher Professional Education Study Program, Universitas PGRI Yogyakarta, Yogyakarta, Indonesia

²Basic Education Study Program, Universitas PGRI Yogyakarta, Yogyakarta, Indonesia

³History Education Study Program, Universitas PGRI Yogyakarta, Yogyakarta, Indonesia

⁴Elementary Teacher Education Study Program, Universitas PGRI Yogyakarta, Yogyakarta, Indonesia

*Email: laelasagita@upy.ac.id

Article Info

Received: 05/09/2025

Revised: 07/11/2025

Accepted: 29/11/2025

Abstract

This community service program aimed to support the activities of Kombel Muga Berkemajuan at Muhammadiyah 3 Junior High School Yogyakarta and to strengthen teacher professionalism, particularly in reflective capacity and classroom innovation. The program was carried out using the Lesson Study for Learning Community (LSLC) approach, emphasizing collaborative planning, classroom implementation, and shared reflection. A qualitative descriptive method was applied, with data obtained through classroom observations, reflective discussions, and documentation analysis. The implementation consisted of three main stages: identifying partner readiness, preparing mentoring activities, and conducting LSLC cycles (plan-do-see). The findings show that the LSLC activities encouraged teachers to engage in more evidence-based reflection when analyzing teaching and learning processes. Teachers also began experimenting with contextual, problem-based, and text-based lesson designs that contributed to richer classroom discussions across Mathematics, Social Studies, and Indonesian Language. Kombel Muga Berkemajuan gradually developed into a more functional professional learning community, with collaboration becoming part of teachers' routine practice. Challenges observed included limited time, instructional resources, and difficulties in applying differentiated instruction. These challenges indicate the need for continued mentoring and capacity building. Overall, the program highlights the potential of LSLC to support teacher professionalism and strengthen collaborative culture in Muhammadiyah schools.

Keywords: Instructional Innovation, Lesson Study for Learning Community, Muhammadiyah Schools, Reflective Practice, Teacher Professionalism

How to Cite: Sagita, L., Utami, N. W., Darsono, D., & Fauziah, M. (2025). From collaboration to innovation: Strengthening teacher reflection and professionalism through lesson study for learning community. *Jurnal Karya Abdi Masyarakat*, 9(2), 121-134. <https://doi.org/10.22437/jkam.v9i2.48213>



© 2025 by the author(s)

This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

INTRODUCTION

Teacher professionalism has become a central issue in the discourse on educational quality improvement, particularly in the era of the twenty-first century when schools face increasingly complex challenges. The rapid

advancement of technology, globalization, and societal transformation demand that schools are not only centers of knowledge transfer but also spaces that nurture critical thinking, creativity, collaboration, and lifelong learning skills (Hursen, 2021; Suryawan et al., 2023). Teachers, therefore, are expected to assume dual roles: as facilitators of learning and as reflective practitioners capable of adapting to dynamic classroom needs and contexts. This dual expectation underscores the urgency of strengthening teacher professional development programs that are not merely technical but also transformative, fostering the capacity to reflect and innovate in everyday classroom practices.

The importance of empowering teachers as agents of change who design student-centered learning environments has been emphasized by the Indonesian government, as reflected in the Regulation of the Minister of Education and Culture (Permendikbud) No. 22 of 2016 on Process Standards. However, various studies reveal that many teachers still face difficulties in implementing reflective practices and innovative pedagogical approaches. Traditional teaching methods that rely heavily on lectures remain dominant, while opportunities for collaborative planning and professional dialogue among teachers are often limited (Wardani & Wardani, 2023). These conditions hinder the cultivation of learning environments that are responsive to students' diverse needs, especially in contexts where twenty-first century competencies such as critical thinking, problem-solving, and communication are urgently needed (Wahyu et al., 2024).

In this regard, Lesson Study for Learning Community (LSLC) has emerged as a promising professional development model. Originating from Japan, LSLC integrates systematic cycles of planning, implementing, and reflecting on lessons in a collaborative manner (Mok & Park, 2022; Takahashi & McDougal, 2016). Its distinguishing feature lies in positioning teachers not as isolated practitioners but as members of a professional learning community (PLC) that continuously engages in critical dialogue about teaching and learning. Through LSLC, teachers collectively design lesson plans, observe classroom teaching conducted by a model teacher, and participate in structured reflection sessions where insights and suggestions are shared openly. This cycle nurtures both pedagogical competence and collegiality, empowering teachers to recognize strengths, identify weaknesses, and construct strategies for instructional improvement.

Research has shown that LSLC is effective in enhancing teacher reflective capacity, promoting innovation, and improving student learning outcomes (Baki & Arslan, 2023; Budiyono & Fitriana, 2021; Ustuk & De Costa, 2020). For example, contextual learning approaches designed through LSLC have been demonstrated to increase student motivation and deepen conceptual understanding in mathematics classrooms (Budiyono & Fitriana, 2021; Njiku et al., 2021). Similarly, the integration of problem-based learning within LSLC frameworks has been found to stimulate critical thinking and collaborative skills in social studies classrooms (Ramadhan et al., 2022; Wardani & Wardani, 2023). Text-based approaches applied through LSLC in language learning also enhance literacy skills by situating students' learning in authentic contexts (Pratiwi & Sari, 2019). These findings reinforce the view that LSLC is not merely a method for lesson planning but also a catalyst for cultivating reflective school cultures that align with the ideals of progressive education.

Despite these promising outcomes, the implementation of LSLC in Indonesia still faces challenges. Many teachers are unfamiliar with its philosophy and tend to view lesson study as an additional administrative burden

rather than a genuine professional development opportunity (Suratno & Cock, 2009). Furthermore, contextual adaptations are required to ensure that LSLC resonates with local educational cultures, school resources, and teacher capacities (Shylvia et al., 2025). In Muhammadiyah schools, which carry the mission of nurturing progressive Islamic education, the integration of LSLC offers strategic potential. By embedding LSLC within *Kombel Muga Berkemajuan*—a collaborative teacher group designed to promote innovation and shared learning—the professional identity of teachers can be strengthened while simultaneously advancing the institutional vision of Muhammadiyah schools as agents of enlightenment and renewal.

The case of Muhammadiyah 3 Junior High School Yogyakarta is particularly relevant in this context. As an educational institution committed to continuous improvement, the school has established *Kombel Muga Berkemajuan* as a platform for teacher collaboration. However, the potential of this platform has not been fully optimized, especially in developing structured reflective practices and innovative classroom experiments. Teachers in the group often engage in sporadic discussions but lack systematic mechanisms to translate dialogue into concrete classroom innovations, a phenomenon supported by recent research showing that participation in structured learning communities significantly influences teacher self-efficacy and their professional learning behaviors (Pan & Cheng, 2023). This gap highlights the need for an integrative mentoring program that equips teachers with structured frameworks for reflection, fosters collaborative inquiry, and encourages innovation grounded in classroom realities. LSLC, with its structured cycle of plan–do–see, provides precisely such a framework.

Several studies underscore the effectiveness of LSLC in building professional learning communities that transcend individual classrooms (Takahashi & McDougal, 2016; Wardani & Wardani, 2023). The reflection sessions inherent in LSLC cultivate a culture of openness where teachers learn to provide constructive feedback, move beyond personal judgment, and focus on evidence-based discussion of teaching practices (Ustuk & De Costa, 2020). This is consistent with Schön (1983) notion of the reflective practitioner, where professional competence develops through cycles of reflection-in-action and reflection-on-action. Moreover, by embedding LSLC into existing school programs such as *Kombel Muga Berkemajuan*, the sustainability of professional development efforts can be ensured, as teachers engage in continuous cycles of collaborative learning rather than one-off workshops.

From a student learning perspective, the integration of LSLC has been associated with higher engagement, improved problem-solving abilities, and more meaningful learning experiences (Hursen, 2021; Suryawan et al., 2023). Previous studies have linked the implementation of LSLC to increased student engagement and more meaningful learning experiences. However, the magnitude and nature of these effects seem to depend heavily on how LSLC is implemented and understood in different contexts. For instance, in Vietnam, teachers and school leaders sometimes view LSLC as a one-day event rather than a sustained reform (Saito, 2022). In another study, combining LSLC with Team-Based Learning was shown to improve student collaboration and communication more effectively in Indonesia (Rostikawati, 2024). Furthermore, contextualized mathematics lessons designed through LSLC encourage students to connect abstract concepts with real-life problems, thereby increasing both comprehension and motivation (Budiyono & Fitriana, 2021). In social studies, problem-based approaches fostered

within LSLC environments enhance students' ability to critically analyze societal issues and develop collaborative solutions (Ramadhan et al., 2022). In language learning, the text-based approach promoted within LSLC enables students to develop literacy skills that are both functional and critical (Pratiwi & Sari, 2019). These empirical findings suggest that LSLC contributes not only to teacher growth but also to student development, thereby creating a virtuous cycle of educational improvement.

Nevertheless, the practical implementation of LSLC is not without obstacles. Studies note that limited facilities, time constraints, and the lack of facilitative leadership can impede the effectiveness of LSLC cycles (Wardani & Wardani, 2023). Teachers may also struggle with differentiating instruction to accommodate diverse student needs, a challenge that requires additional training and resources (Nusantara et al., 2025; Nusantara et al., 2025). These challenges underline the importance of carefully designed mentoring programs that address not only the procedural aspects of LSLC but also the cultural and institutional support required for its success.

This article, therefore, aims to analyze the implementation of LSLC within *Kombel Muga Berkemajuan* at Muhammadiyah 3 Junior High School Yogyakarta as part of a community service program. Specifically, it examines how LSLC influences teachers' reflective capacity, the development of innovative teaching practices, and the institutionalization of collaborative learning communities within schools. The findings are expected to provide both practical insights into teacher development and theoretical contributions to the literature on LSLC in non-Western educational contexts.

This study fills a gap in the development of teacher professionalism by collaboratively applying the LSLC approach in Muhammadiyah schools in Indonesia. Unlike previous studies, which were generally limited to improving specific aspects of learning quality or focused on only one discipline, this study comprehensively highlights the strengthening of critical reflection practices, context- and problem-based learning innovation, and the development of sustainable professional learning communities in various subjects such as Mathematics, Social Sciences, and Indonesian Language. Previous studies have shown that LSLC is effective in improving the quality of learning; however, its application remains limited to specific domestic contexts and aspects of collaboration that have not been fully integrated into the professional culture of teachers. The gap in this study lies in the lack of literature that examines in depth how the implementation of LSLC can strengthen a collaborative culture and critical reflection sustainably in secondary schools in Indonesia, as well as its influence on learning innovation and holistic professional development.

The main innovation of this study lies in the success of LSLC in fostering a collaborative culture and collectively enhancing teachers' reflective capacities, while encouraging innovation in contextual and problem-based lesson design. The objective of this study is to describe the process and impact of LSLC implementation on improving reflective practices, promoting learning innovation, and fostering a sustainable professional learning community at SMP Muhammadiyah 3 Yogyakarta, as well as to provide recommendations for the continuous professional development of teachers in the Indonesian context.

METHODS

This community service program was conducted at Muhammadiyah 3 Junior High School Yogyakarta as part of efforts to optimize the activities of Kombel Muga Berkemajuan and enhance teacher professionalism. The duration of activities in the partner readiness identification stage lasted for 1 month, followed by a 1-month preparation and mentoring stage, and a 1-month implementation and classroom learning reflection stage. depicts the stages involved in the implementation of the program.

Setting and Participants

The program was implemented in collaboration with teachers of SMP Muhammadiyah 3 Yogyakarta, particularly those organized within Kombel Muga Berkemajuan. The participants consisted of teachers from various subject groups, including Mathematics, Social Studies, and Indonesian Language. These subjects were selected to represent core areas of learning where reflective practices and innovative teaching approaches could significantly impact student engagement and achievement. In this activity, there were five teachers from the mathematics learning community, six teachers from the Social Studies learning community, and eight teachers from the Indonesian Language learning community, totaling 19 participating teachers. The implementation was carried out through a series of LSLC cycles, specifically three plan–do–see cycles, which were conducted in parallel across three classes (each field). The school management, including principals and coordinators of teacher groups, was also actively involved in facilitating the implementation of the program.

Program Stages

The mentoring program was structured into three main stages as shown in [Figure 1](#).



Figure 1. Stages the Implementation Program

[Figure 1](#) shows that the mentoring program was organized into three sequential stages. The process began with identifying partner readiness to ensure sufficient commitment, resources, and organizational support. It then proceeded with the preparation of mentoring, focusing on LSLC socialization and teacher workshops. Finally, the program moved to the implementation of LSLC cycles as the core classroom activities. The following sections explain each stage in detail.

1. Identification of partner readiness. At this stage, the team ensured that the school possessed the commitment, resources, and organizational support necessary for the successful implementation of LSLC. Activities included discussions with school management, preparation of schedules for LSLC cycles, drafting observation guidelines, and preparing necessary facilities such as recording devices and IT support.
2. Preparation for mentoring. The preparation stage involved socialization of the LSLC concept and workshops for teachers. During these workshops, teachers were introduced to the philosophy, procedures, and benefits of LSLC. The workshops also provided opportunities for collaborative planning, where teachers in each subject

group designed lesson plans that would later be tested during the LSLC cycles.

3. Implementation of LSLC cycles. The implementation stage was carried out in several cycles following the standard LSLC phases:
 - a) Plan: Teachers collaboratively designed lessons in small groups under the guidance of facilitators.
 - b) Do: One teacher (model teacher) implemented the planned lesson in the classroom, while other teachers observed using structured observation sheets.
 - c) See: After the teaching session, all participants engaged in reflection meetings to analyze strengths, challenges, and opportunities for improvement. Reflections were evidence-based, drawing on observation notes, student responses, and teaching artifacts.

Data Collection and Analysis

Data were collected through structured classroom observations using observation protocols, video-recorded reflection meetings, semi-structured teacher interviews, student feedback, and analysis of lesson plans and teaching materials produced during the cycles (Miles & Huberman, 2014). Observational data focused on teacher practices, student engagement, and classroom interactions. Reflection notes were used to capture teachers' perspectives on the effectiveness of their lessons and the insights gained from peer feedback.

The process involved reviewing all collected data (observation notes, student's feedback, reflection recordings, and lesson plans) to identify key ideas, grouping related ideas into categories, and synthesizing them into broader themes. Triangulation across data sources was conducted to ensure consistency, and the identified themes were illustrated with excerpts from observations, interviews, reflections, or lesson plans.

Ethical Considerations

All activities were carried out in accordance with ethical standards of community service, ensuring voluntary participation, respect for teacher autonomy, and collaborative decision-making. Teachers were informed about the objectives and processes of the program, and their contributions were acknowledged as integral to the success of the initiative. This methodological design was expected to provide a comprehensive understanding of how LSLC can be integrated into *Kombel Muga Berkemajuan*, thereby offering both practical solutions for professional development and theoretical contributions to the literature on teacher learning communities in Indonesia. Ethical considerations were strictly followed, as summarized in [Table 1](#).

Table 1. Ethical Considerations and Supporting Evidence

Ethical Aspect	Description	Evidence
Institutional Clearance	Approval of conducting the study was obtained from the relevant school authorities.	Official permission letter or email from school/institution.
Respect for Autonomy	Teachers' professional autonomy was respected throughout activities.	Meeting notes or documentation showing teachers' decisions in implementing activities.
Collaborative Decision-Making	Decisions regarding the activities were made collaboratively with participants.	Meeting notes, draft activity plans agreed upon by teachers and researchers.

[Table 1](#) summarizes the ethical considerations applied in this study and the supporting evidence used to document each aspect. It outlines key ethical principles—such as institutional clearance, respect for autonomy, and collaborative decision-making—along with the types of documentation collected. Following these ethical standards made sure that the study respected the rights, independence, and privacy of the people who took part in it. This made the study more believable and trustworthy, and it helped to support both the practical and theoretical contributions to the development of teachers in Indonesia.

RESULTS AND DISCUSSION

In conducting this study, strict adherence to ethical standards reinforced the credibility and trustworthiness of the findings. Institutional approval was secured prior to data collection to ensure that all research procedures complied with school regulations and protected the learning environment. Documentation from collaborative planning meetings further demonstrated respect for teacher autonomy, as instructional decisions were made jointly rather than imposed externally. The structured cycles of Plan–Do–See also ensured that decisions about how lessons were designed, implemented, and reviewed were co-constructed by teachers and the researchers/facilitators, rather than directed by external mandates. Empirical studies of lesson study and collaborative professional learning show that these cyclical processes foster genuine joint planning, classroom observation, and shared reflection—conditions that both protect teacher autonomy and make instructional decisions collectively (Akiba et al., 2019; Xu, 2015). Collectively, these ethical safeguards establish a robust foundation for interpreting the outcomes presented in the subsequent discussion.

The implementation of LSLC at Muhammadiyah 3 Junior High School Yogyakarta revealed significant contributions toward enhancing teacher professionalism, particularly in the domains of reflective practice, instructional innovation, and collaborative culture. This section discusses the outcomes of the program, organized around three primary dimensions: (1) the impact of LSLC on teacher reflective capacity, (2) the development of innovative teaching practices, and (3) the institutionalization of collaborative learning communities within the school. The discussion is framed in relation to existing studies on LSLC and teacher professional development, thereby situating the findings within broader theoretical and empirical contexts.

Strengthening Teacher Reflective Practice

The most immediate impact of the LSLC cycles was the enhancement of teachers' ability to engage in systematic reflection. During the *see* phase, teachers not only reviewed their individual performances but also collectively analyzed classroom dynamics, student responses, and the effectiveness of instructional strategies. Reflection sessions were guided by structured observation tools that emphasized evidence-based feedback, thereby shifting the focus from personal opinions to observable data. This approach is supported by Novoa-Echaurren et al. (2025), who frame reflective practice as an iterative process of critically examining pedagogical experiences for the continuous improvement of teaching and as a mechanism that helps educators adapt their instructional decision-making to situational needs. [Figures 2](#) represent reflections of the three subject clusters (left

to right: Mathematics-Social-Bahasa).



Figure 2. Reflections of the Three Subject Clusters

Teachers reported that the structured nature of LSLC reflection allowed them to identify specific areas for improvement, such as questioning techniques, time management, and differentiation strategies. For instance, in Mathematics, reflection highlighted the need to provide multiple representations of geometric concepts, while in Social Studies, teachers recognized the importance of scaffolding critical discussions to maintain student engagement. These insights reflect what Ustuk & De Costa (2020) describe as “meta-action,” where teachers develop meta-cognitive awareness of their instructional practices through collaborative reflection.

Moreover, the culture of openness in reflection meetings contributed to reducing hierarchical barriers among teachers. Junior teachers felt empowered to contribute their observations, while senior teachers acknowledged the value of peer feedback. This aligns with findings by Wardani & Wardani (2023), who argue that LSLC fosters egalitarian professional dialogue that enhances collective teacher agency. In the context of Muhammadiyah schools, this democratic ethos resonates with the values of *ta’awun* (mutual assistance) and *musyawarah* (deliberation), thereby reinforcing the cultural appropriateness of LSLC.

Promoting Instructional Innovation

Beyond reflection, LSLC also facilitated innovation in lesson design and classroom implementation. Teachers were encouraged to experiment with contextual, problem-based, and text-based approaches that aligned with the objectives of twenty-first century education.

In Mathematics, the lesson plans incorporated real-life contexts, such as the design of local foods shaped like geometric solids, to make abstract concepts more tangible. This reflects Budiyo & Fitriana (2021) findings that contextual learning enhances both motivation and conceptual understanding in mathematics. Observations during the lessons indicated that students were more engaged when geometric shapes were connected to familiar objects. Many students demonstrated improved ability to approach and solve application problems, as illustrated in Figure 3, suggesting that relating mathematical concepts to everyday contexts can support understanding and problem-solving skills.

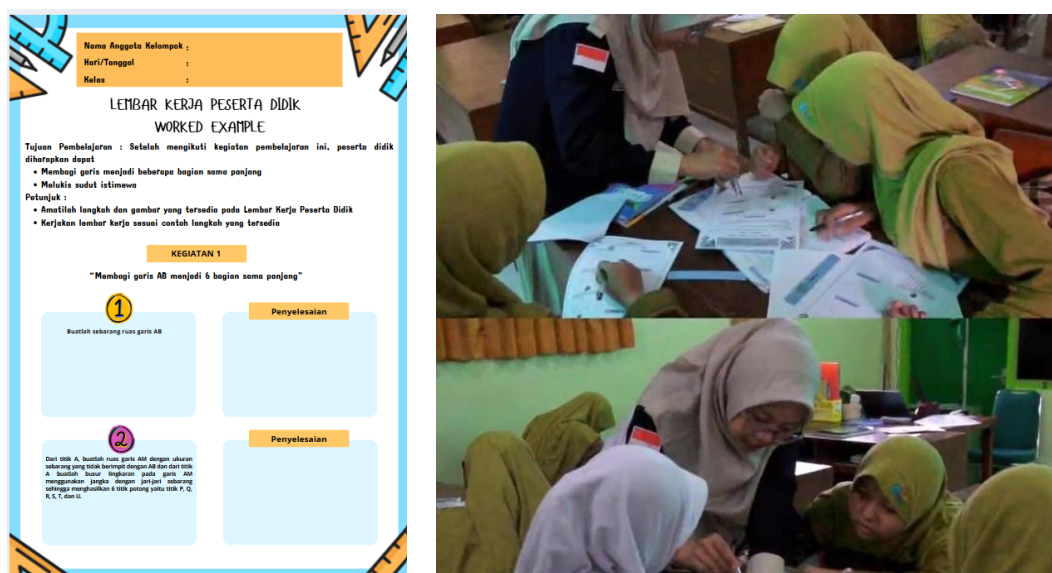


Figure 3. Mathematics Student Worksheet and Student Class Activity

Student reflections indicate that geometry lessons grounded in familiar contexts elicited notably positive and engaged responses. Eighty-five percent of students used enthusiastic terms to describe the experience. For example, they wrote that the lesson was "sangat seru" (very exciting) and "menyenangkan (tidak membosankan)" (enjoyable and not boring). These comments suggest that incorporating abstract geometric concepts into relatable, everyday activities made the content seem enjoyable and lively rather than tedious. This finding aligns with educational theory on contextualized teaching. Contextual teaching is the most efficient way for students to see the link between what they learn in class and the real world (Nusantara et al., 2025). In summary, the qualitative feedback supports the claim that situating geometry problems within familiar contexts increased student engagement, as reflected in their explicitly positive, affective descriptions of the lessons.

In social studies, teachers integrated problem-based learning (PBL) strategies, where students were tasked with analyzing contemporary issues and proposing collaborative solutions. This approach not only fostered critical thinking but also encouraged students to exercise communication and teamwork skills. Ramadhan et al., (2022) and Hursen (2021) highlight that PBL within LSLC environments has been particularly effective in stimulating higher-order thinking skills and promoting student autonomy. The reflection sessions indicated that students were more willing to participate actively when the learning activities involved real-life problems that connected to their social realities.

In Indonesian language, the focus on text-based approaches supported students in developing functional literacy skills. By engaging with authentic texts, students learned to analyze structure, argumentation, and rhetorical devices in ways that were both critical and meaningful. Pratiwi & Sari (2019) emphasize that such approaches are effective in improving writing skills, as they situate literacy practices within relevant contexts. Teachers observed that students became more confident in constructing written arguments when lessons incorporated contemporary issues that resonated with their experiences as shown in Figure 4.



Figure 4. Bahasa Student Class Activity

These examples underscore that LSLC does not merely standardize lesson planning but also stimulates pedagogical creativity. Teachers felt encouraged to innovate because they knew that their experiments would be collectively reviewed and refined, thereby reducing the risk of failure. This aligns with Takahashi & McDougal (2016) argument that LSLC creates “safe spaces for risk-taking,” where innovation is nurtured within a supportive community.

Building Professional Learning Communities

One of the most significant outcomes of the program was the consolidation of Kombel Muga Berkemajuan as a functional professional learning community (PLC). Prior to the program, the group had operated primarily as a forum for sharing administrative information and sporadic discussions. Through LSLC, the group began functioning as a collaborative platform for lesson planning and reflection.

This transformation reflects the broader theoretical claim that LSLC can serve as an institutional mechanism for sustaining PLCs (Lewis et al., 2006; Stigler & Hiebert, 1999). By embedding LSLC cycles into the regular routines of the group, the program ensured that professional learning became a continuous process rather than an episodic activity. Teachers reported that the cycles motivated them to maintain documentation of their lessons, revisit their teaching strategies, and set collective goals for improvement.

Furthermore, the institutionalization of LSLC supported the school's mission of progressive education. Muhammadiyah schools are tasked with integrating religious, scientific, and cultural dimensions of learning, a mission that requires teachers to embody professionalism, creativity, and collaboration. By fostering reflective and innovative practices, LSLC directly contributed to realizing this mission. Teachers not only improved their individual competencies but also cultivated a shared professional identity as members of a progressive learning community.

Challenges and Limitations

Despite these positive outcomes, several challenges emerged during implementation. First, time constraints posed significant barriers, as LSLC cycles required substantial preparation, observation, and reflection time. This aligns with findings from Wardani & Wardani (2023), who note that the intensive nature of LSLC often clashes with teachers' existing workloads.

Second, the availability of instructional media and technological resources was limited. For example, the

mathematics lessons would have benefited from dynamic visualization tools, while Social Studies discussions could have been enriched through multimedia case studies. The lack of resources constrained the extent of innovation. Nusantara et al. (2025) similarly emphasizes that resource limitations are a recurring challenge in Indonesian classrooms, requiring creative adaptation from teachers.

Third, differentiation of instruction remained an area of difficulty. Although teachers recognized the importance of addressing diverse student needs, they often lacked concrete strategies for implementing differentiated tasks within LSLC lessons. This limitation has been observed in other studies as well, suggesting that LSLC needs to be complemented with targeted professional development on differentiation (Suryawan et al., 2023).

Implications for Policy and Practice

The findings of this program have several implications. At the school level, embedding LSLC within teacher groups ensures sustainability, as professional development becomes a collaborative and continuous practice at the policy level, the findings from LSLC in Muhammadiyah schools indicate the model's possible applicability across varying cultural and institutional settings. For teacher education, the program underscores the importance of preparing future teachers to engage in reflective and collaborative practices rather than isolated teaching.

More broadly, the program illustrates how LSLC can serve as a bridge between global educational innovations and local cultural values. By integrating LSLC into *Kombel Muga Berkemajuan*, Muhammadiyah 3 Junior High School Yogyakarta not only advanced teacher professionalism but also reinforced its identity as a progressive Islamic school. This dual contribution professionally and cultural—suggests that LSLC holds significant potential for scaling up within Muhammadiyah schools and beyond.

CONCLUSION

The implementation of LSLC at SMP Muhammadiyah 3 Yogyakarta, integrated into the *Kombel Muga Berkemajuan* program, has demonstrated significant potential in enhancing teacher professionalism. The structured LSLC cycle facilitates systematic reflection, encourages pedagogical innovation, and fosters a collaborative culture among teachers from various disciplines. During reflection sessions, teachers give and receive feedback from peers based on documented observation evidence, enabling a deeper understanding of teaching strengths and areas for improvement. This leads to more innovative lesson designs that integrate contextual, problem-based, and text-based approaches, effectively increasing student engagement and learning outcomes in Mathematics, Social Sciences, and Indonesian Language.

This initiative contributed to transforming *Kombel Muga Berkemajuan* from a casual discussion group into a sustainable and functional professional learning community committed to continuous collaborative planning, teaching, and reflection. This institutional evolution aligns with Muhammadiyah's mission to develop progressive Islamic education, demonstrating the flexibility of LSLC in adapting to local cultural and educational contexts. However, challenges related to time constraints, teaching resources, and differentiation persist, underscoring the

need for ongoing support and professional development to ensure the program's sustainability and scalability.

These findings suggest that LSLC is not only a practical methodology for improving learning quality but also a powerful cultural and institutional strategy for developing reflective and innovative school communities. Its successful implementation at Muhammadiyah 3 Junior High School Yogyakarta provides valuable insights for policymakers, educators, and researchers, aiming to strengthen teacher professionalism through collaborative and contextually relevant approaches. Sustained efforts to address current challenges and expand the implementation of LSLC can have a significant impact on the broader Indonesian educational landscape, promoting more reflective, innovative, and sustainable teaching practices nationwide.

ACKNOWLEDGMENTS

This research was funded by Universitas PGRI Yogyakarta through the Internal Community Service Grant 2025, with the contract number: 356/BAP-LPPM//2025.

DECLARATIONS

- Author Contribution : LS: Conceptualization, Writing-Original Draft, Editing, and Visualization; NWU: Writing-Review & Editing, Formal Analysis, and Methodology; DR: Writing-Review & Editing, Formal Analysis, and Methodology; MF: Writing-Review & Editing, Formal Analysis, and Methodology
- Funding Statement : This community service was funded by the Universitas PGRI Yogyakarta for supporting and funding this research.
- Conflict of Interest : The authors declare no conflict of interest.
- Additional Information : Additional information is available for this paper.

REFERENCES

- Akiba, M., Murata, A., Howard, C. C., & Wilkinson, B. (2019). Lesson study design features for supporting collaborative teacher learning. *Teaching and Teacher Education*, 77, 352–365. <https://doi.org/10.1016/j.tate.2018.10.012>
- Baki, M., & Arslan, S. (2023). Impact of lesson study on pre-service primary teachers' mathematical pedagogical content knowledge. *International journal of mathematical education in science and technology*, 54(10), 1994-2012. <https://doi.org/10.1080/0020739X.2021.2022225>
- Budiyono, B., & Fitriana, L. (2021). Contextual learning in mathematics to increase students' motivation and understanding. *Journal of Physics: Conference Series*, 1776(1), 012020. <https://doi.org/10.1088/1742-6596/1776/1/012020>
- Hursen, C. (2021). A systematic review of problem-based learning research trends in STEM education. *Thinking Skills and Creativity*, 41, 100823. <https://doi.org/10.1016/j.tsc.2021.100823>
- Lewis, C., Perry, R., & Murata, A. (2006). How should research contribute to instructional improvement? The case of lesson study. *Educational Researcher*, 35(3), 3–14. <https://doi.org/10.3102/0013189X035003003>

- Njiku, J., Mutarutinya, V., & Maniraho, J. F. (2021). Building Mathematics Teachers' TPACK through Collaborative Lesson Design Activities. *Contemporary Educational Technology*, 13(2). <https://files.eric.ed.gov/fulltext/EJ1293344.pdf>
- Novoa-Echaurren, Á., Pavez, I., & Anabalón, M. E. (2025). Reflective Practice and Digital Technology Use in a University Context: A Qualitative Approach to Transformative Teaching. *Education Sciences*, 15(6), 643. <https://doi.org/10.3390/educsci15060643>
- Nusantara, D. S., Ibarra, F. P., Pasaribu, F. T., & Lusinda, U. (2025). Designing JUMPISA: A PISA-Based jumping task to support students' statistical literacy using Jambi context. *Journal of Instructional Mathematics*, 6(2), 96–116. <https://doi.org/10.37640/jim.v6i2.2518>
- Nusantara, D. S., Zulkardi, Z., & Putri, R. I. I. (2025). Investigating students' mathematical argumentation ability in solving PISA-like mathematics tasks on change and relationships. *Mathematics Education Journal*, 19(4), 807–826. <https://jpm.ejournal.unsri.ac.id/index.php/jpm/article/view/504>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook* (3rd ed.). Thousand Oaks, CA: Sage.
- Mok, I. A. C., & Park, Y. H. (2022). Integrating research into practice: The growth of collective pedagogical content knowledge for primary mathematics via lesson study. *Asian Journal for Mathematics Education*, 1(2), 187–203. <https://doi.org/10.1177/27527263221105111>
- Pan, H.-L. W., & Cheng, S.-H. (2023). Examining the Impact of Teacher Learning Communities on Self-Efficacy and Professional Learning: An Application of the Theory-Driven Evaluation. *Sustainability*, 15(6), 4771. <https://doi.org/10.3390/su15064771>
- Pratiwi, D., & Sari, W. (2019). The use of text-based approach in teaching writing skills for junior high school students. *JETAL*, 1(2), 89–98.
- Ramadhan, N. F., Abdulkarim, A., & Iqbal, M. (2022). Developing students' critical thinking through problem-based learning model on Indonesian society in colonisation era in IPS. *International Journal Pedagogy of Social Studies*, 7(2), 157–170. <https://doi.org/10.17509/ijposs.v9i2.45501>
- Rostikawati, Y. (2024). Team Based Learning Model to Improve Student Collaboration and Communication through Lesson Study. *Journal for Lesson and Learning Studies*, 7(1), 193–200. <https://doi.org/10.23887/jlls.v7i1.73769>
- Saito, E. (2022). Issues of Practising Lesson Study for Learning Community in Vietnam. *Vietnam Journal of Education*, 70–78. <https://doi.org/10.52296/vje.2022.179>
- Suryawan, I. P. P., Sudiarta, I. G. P., & Suharta, I. G. P. (2023). Students' critical thinking skills in solving mathematical problems: Systematic literature review. *Indonesian Journal of Educational Research and Review*, 6(1), 120–133. <https://doi.org/10.23887/ijerr.v6i1.56462>
- Schön, D. A. (1983). *The Reflective Practitioner: How Professionals Think in Action*. Basic Books.
- Shylvia, P. C., Yulia, C., Sudiapermana, E., & Sujana, A. (2025). Problem-Based Learning in the context of mathematical critical thinking: A bibliometric trend analysis. *Jurnal Pendidikan MIPA*, 26(2), 1219–1233. <https://10.23960/jpmipa.v26i2.pp1219-1233>
- Stigler, J. W., & Hiebert, J. (1999). *The Teaching Gap: Best Ideas From the World's Teachers for Improving Education in the Classroom*. Free Press.
- Suratno, T., & Cock, M. (2009). Teacher reflection in Indonesia: Lessons learnt from a lesson study program. *Procedia – Social and Behavioral Sciences*, 1(1), 144–149. <https://files.eric.ed.gov/fulltext/ED514886.pdf>
- Takahashi, A., & McDougal, T. (2016). Collaborative lesson research: Maximizing the impact of lesson study. *ZDM – Mathematics Education*, 48(4), 513–526. <https://doi.org/10.1007/s11858-015-0752-x>
- Ustuk, Ö., & De Costa, P. I. (2020). Reflection as meta-action: Lesson study and EFL teacher professional development. *TESOL Journal*, 11(3), e492. <https://doi.org/10.1002/tesj.492>

- Wahyu, T. D., Kamid, & Rusdi, M. (2024). The influence of contextual teaching learning models reviewed from self-efficacy on critical thinking ability. *PRISMA*, 13(1), 166-174. <https://doi.org/10.35194/jp.v13i1.3759>
- Wardani, I. S., & Wardani, E. F. (2023). Building critical thinking skills of 21st century students through problem-based learning model. *Jurnal Pendidikan Indonesia*, 12(1), 56–65. <https://doi.org/10.23887/jpiundiksha.v12i3.58789>
- Xu, H. (2015). The development of teacher autonomy in collaborative lesson preparation: A multiple-case study of EFL teachers in China. *System*, 52, 139–148. <https://doi.org/10.1016/j.system.2015.05.007>