

Teachers' Professional Development and Its Influence on Teaching Innovation in Rural Schools

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Abstract: *This study explores the relationship between teachers' professional development and teaching innovation in rural schools located in Ambon, Indonesia. The research aims to understand how structured training, peer collaboration, and reflective teaching practices influence the ability of rural educators to implement innovative strategies in their classrooms. Employing a qualitative case study approach, data were collected through in-depth interviews with 12 teachers and 3 school principals from four rural schools in the region. Thematic analysis revealed that continuous professional development particularly in the areas of ICT integration, contextualized pedagogy, and curriculum adaptation has a significant impact on teachers' creativity and willingness to innovate. The findings indicate that teachers who regularly engage in professional learning communities and receive consistent institutional support are more likely to experiment with student-centered learning models, problem-based learning, and culturally responsive teaching. This study highlights the importance of sustainable teacher development policies and tailored support systems to foster educational innovation in under-resourced areas.*

Keywords: *Professional Development, Teaching Innovation, Rural Education, Teacher Training.*

INTRODUCTION

Education plays a crucial role in shaping the intellectual, social, and emotional growth of a nation's youth. However, disparities in educational access and quality between urban and rural areas remain a persistent challenge, particularly in developing countries such as Indonesia. In rural regions like Ambon, educators often face limited access to professional development opportunities, which affects their capacity to innovate in teaching and learning processes. The ability of teachers to adopt innovative pedagogical practices is highly influenced by their access to continuous training, collaborative networks, and institutional support systems (Darling-Hammond et al., 2017).

Professional development refers to formal and informal learning experiences designed to improve teachers' knowledge, skills, and effectiveness in the classroom. It includes workshops, in-service training, mentoring programs, online courses, peer discussions, and reflective practices (Desimone & Garet, 2015). The connection between professional development and teaching innovation is well-established in educational literature. Teachers who engage in consistent professional growth are more likely to implement creative strategies, adapt to student needs, and utilize educational technology effectively (Guskey, 2002).

In rural areas, however, professional development is often sporadic, underfunded, or irrelevant to the local context. Teachers may find themselves isolated from educational innovations that are common in urban schools. The lack of peer interaction, technological infrastructure, and administrative support makes it difficult for them to update their pedagogical methods (Hardman et al., 2011). In the case of Ambon, which is part of the Maluku Islands in eastern Indonesia, geographic isolation and socioeconomic constraints have further widened the gap in teacher development between rural and urban regions (Susanto et al., 2021).

Teaching innovation in rural settings requires more than just new methods—it involves the integration of contextually appropriate approaches that are aligned with students' cultural, social, and cognitive realities. Innovative teaching may take the form of project-based learning, use of local resources, incorporation of ICT (Information and Communication Technology), or interactive teaching techniques that promote critical thinking (Schleicher, 2018). For such innovations to take root, teachers need exposure to new ideas, training in curriculum adaptation, and opportunities for reflection and experimentation.

Studies have shown that professional development is most effective when it is ongoing, collaborative, and aligned with teachers' everyday classroom challenges (Avalos, 2011; Opfer & Pedder, 2011). Short, one-time workshops often have minimal impact on long-term practice. Instead, professional learning communities (PLCs), coaching, and action research have been found to promote sustained pedagogical innovation (Cordingley et al., 2015). In rural schools, establishing such systems is a major challenge due to limited resources and logistical barriers.

In Indonesia, the Ministry of Education has introduced several policies aimed at improving teacher quality, such as the Guru Penggerak (Transformative Teacher Program) and the Teacher Professional Education Program (PPG). While these initiatives show promise, their implementation in rural areas like Ambon is still uneven and faces significant constraints (Fahmi et al., 2011). Therefore, understanding how rural teachers perceive and engage with professional development, and how this influences their ability to innovate, is crucial for policy refinement.

The purpose of this study is to explore the influence of professional development on teaching innovation among elementary school teachers in rural Ambon. Specifically, it investigates (1) the forms of professional development available to rural teachers, (2) the perceived impact of these opportunities on their teaching practices, and (3) the institutional and contextual factors that support or hinder innovation. The findings of this research are expected to contribute to the improvement of rural teacher development strategies and offer practical recommendations for policymakers, school administrators, and teacher education institutions.

By focusing on rural schools in Ambon, this study addresses an under-researched context within the broader discourse of teacher professional development. It also emphasizes the need to tailor teacher learning models to the sociocultural realities of rural communities. Promoting teaching innovation in such contexts is not only a matter of pedagogical improvement but also a step toward educational equity and national development.

METHOD

This study used a qualitative case study design to explore the influence of teachers' professional development on teaching innovation in rural schools in Ambon, Indonesia. According to Yin (2018), case study research is well-suited for investigating contemporary educational phenomena within their real-world context, especially when the boundaries between the phenomenon and the context are blurred. This approach enabled the researcher to gain deep insights into the lived experiences of teachers working in remote and under-resourced environments.

Participants were selected using purposive sampling, following Creswell's (2013) recommendation that qualitative studies require the selection of individuals who have experience and knowledge relevant to the research problem. The study involved 15 participants, including 10 elementary school teachers, 3 school principals, and 2 education officials from four rural schools in Ambon. Each participant had at least five years of teaching experience and had been involved in some form of professional development.

Semi-structured interviews, document analysis, and classroom observations were used as data collection methods. Merriam and Tisdell (2016) emphasized that combining multiple data sources improves the credibility and depth of qualitative findings. The interviews, conducted in Bahasa Indonesia, were recorded, transcribed, and translated into English for analysis.

Data were analyzed using thematic analysis, following the six-phase process proposed by Braun and Clarke (2006), which includes familiarization, generating codes, searching for themes, reviewing themes, defining themes, and producing the final report. NVivo 12 software was employed to assist with coding and theme organization.

To ensure trustworthiness, strategies such as triangulation, member checking, and audit trails were implemented, in accordance with the guidelines provided by Miles, Huberman, and Saldaña (2014), who emphasized the importance of rigorous qualitative procedures to enhance reliability and validity.

RESULT AND DISCUSSION

This study aimed to examine the influence of teachers' professional development on teaching innovation in rural schools in Ambon, Indonesia. The findings are organized into three main themes: (1) access and participation in professional development activities, (2) transformation of teaching practices through innovation, and (3) institutional and contextual enablers and barriers.

Access and Participation in Professional Development

Access to professional development remains a critical issue for educators in rural settings such as Ambon. The findings of this study reveal that opportunities for structured, formal professional training are perceived as both insufficient and inaccessible. Many teachers expressed

frustration about the centralized nature of training programs, which are typically conducted in urban centers. This results in significant logistical and financial burdens for rural educators. One participant stated, “We want training, but we often can’t attend because it’s held in the city, and we don’t have the funds to travel.” This sentiment reflects a wider challenge across Indonesia’s remote areas, where uneven development and centralization create disparities in professional access and equity.

These challenges are consistent with the findings of Avalos (2011), who argued that teachers in developing countries frequently struggle with access to meaningful professional development due to geographic isolation, budget constraints, and the lack of institutional infrastructure. In the context of eastern Indonesia, Susanto, Sulaiman, and Malawat (2021) noted that teachers in Maluku often face similar marginalization, limiting their professional growth and subsequently affecting instructional quality.

Despite these barriers, many teachers demonstrated a strong commitment to self-improvement. Some participants reported participating in self-organized peer discussions, engaging in online webinars, or accessing free resources via social media and educational websites. While informal, these forms of professional development reflect a grassroots approach to learning and signal the adaptive strategies of educators striving to innovate within constraints. This aligns with Trust and Whalen’s (2020) findings during the COVID-19 pandemic, which showed that remote and digital platforms emerged as alternative channels for teacher training, even in underserved areas.

The effectiveness of these digital approaches in rural Ambon is still challenged by limited infrastructure. Several teachers admitted to facing poor internet connectivity, lack of digital devices, and low levels of digital literacy. These issues hinder consistent participation in online training. Moreover, without proper technical support or follow-up from education authorities, online professional development often becomes a one-time event rather than a continuous learning process.

In some cases, schools with proactive leadership attempted to bridge the gap by organizing in-house workshops or inviting external facilitators when possible. Principals who prioritized

professional development created time within the school calendar for collaborative learning and mentoring among staff. While these efforts were not widespread, they provide a model of how school-level leadership can compensate for structural limitations.

Interestingly, some of the more motivated teachers reported forming informal professional learning communities (PLCs) within their schools. These groups often met weekly to share lesson plans, review teaching materials, and reflect on student progress. While lacking formal recognition, these initiatives embody the principles of teacher-led development and professional autonomy. Desimone and Garet (2015) have emphasized that such collaborative efforts—when sustained over time—can be just as effective as formal workshops in fostering instructional improvement.

To enhance access to professional development in rural contexts, there is a clear need for decentralized training models that bring opportunities closer to schools. Mobile training units, district-level teacher centers, and hybrid learning modules could serve as viable alternatives. Additionally, education policy should invest in digital infrastructure tailored to the specific needs of rural areas, ensuring that online learning is not only accessible but also pedagogically meaningful.

While rural teachers in Ambon face systemic barriers to professional development, their dedication and creativity in seeking alternative pathways are commendable. Recognizing and supporting these efforts through better infrastructure, decentralized planning, and school-based leadership could substantially improve the professional growth and innovation capacity of teachers in rural Indonesia.

Transformation of Teaching Practices through Innovation

The research findings indicate a strong correlation between teachers' participation in professional development and the transformation of their teaching practices. Teachers who had consistent and sustained access to training—whether formal or informal—showed a noticeable shift from traditional, lecture-based methods to more interactive, student-centered approaches. These transformations included the integration of multimedia teaching aids such as videos and digital presentations, the adoption of inquiry-based learning models, and the use of contextual,

real-life examples relevant to students' cultural and social environments. As emphasized by Darling-Hammond, Hyler, and Gardner (2017), high-quality professional development programs enable teachers to deepen their pedagogical content knowledge, reflect critically on their practices, and apply innovative strategies in the classroom.

In the context of rural Ambon, many teachers leveraged local culture and community resources as pedagogical tools. For instance, one teacher creatively used traditional Ambonese songs to explain mathematical concepts and language patterns. This approach not only made learning more engaging for students but also validated their cultural identity within the school environment. Such practices reflect the principles of culturally responsive pedagogy, which Gay (2010) describes as a teaching approach that affirms students' cultural heritage while promoting academic excellence. Ladson-Billings (2014) also argues that recognizing and incorporating students' cultural backgrounds into instruction enhances motivation and learning outcomes, particularly in marginalized communities.

The study further revealed that teachers involved in Professional Learning Communities (PLCs) were more confident in trying out new instructional strategies. These collaborative groups, formed at the school level or across schools in the same region, functioned as safe spaces for experimentation, feedback, and collective problem-solving. Through regular meetings, peer observations, and lesson-sharing sessions, teachers developed a deeper understanding of effective instructional design. This finding is supported by Desimone and Garet (2015), who argue that collaborative and job-embedded learning is one of the most powerful mechanisms for instructional change. Cordingley et al. (2015) also highlight the importance of sustained peer collaboration in professional learning as a driver for long-term pedagogical improvement.

The presence of supportive school leadership emerged as a facilitating factor in encouraging teaching innovation. Principals who provided structured time for teacher collaboration, recognized teacher initiatives, and encouraged reflective dialogue were found to be instrumental in creating an environment where innovation could flourish. According to Leithwood, Harris, and Hopkins (2008), school leaders play a pivotal role in shaping a school culture that embraces change, supports teacher agency, and nurtures professional experimentation.

Despite these positive examples, some teachers noted that innovative practices were often constrained by external factors such as rigid curriculum standards, large class sizes, and a lack of technological resources. For instance, some teachers shared that although they were trained in using digital tools, their schools lacked projectors or stable electricity, making it difficult to implement what they had learned. This reflects the findings of Fullan (2011), who emphasized that innovation requires not only individual capacity but also enabling conditions within the system.

The willingness of teachers to adapt and innovate within their existing limitations demonstrates a high level of professional resilience. In many cases, teachers created their own low-tech teaching aids or adapted local materials creatively. This underscores the need for policy reforms that not only provide training but also ensure the alignment of curriculum flexibility, resource provision, and assessment systems to support teacher-led innovation.

The study confirms that professional development has the potential to drive meaningful transformation in teaching practices, especially when it is ongoing, context-sensitive, and supported by collaborative culture and leadership. By fostering spaces where teachers can explore, adapt, and reflect, professional development becomes a catalyst for sustainable innovation in education particularly in rural and under-resourced settings.

Institutional and Contextual Enablers and Barriers

The role of institutional and contextual factors proved to be decisive in shaping the success or failure of professional development outcomes in rural Ambon. While individual teachers often displayed remarkable motivation and commitment to growth, the level of institutional support they received varied significantly from one school to another. Schools led by proactive and visionary principals were more likely to embed professional development into their overall improvement strategies. These school leaders intentionally carved out time for peer mentoring, facilitated collaborative lesson planning, and encouraged reflective teaching practices. This finding supports Leithwood, Harris, and Hopkins (2008), who argue that effective school leadership is one of the strongest levers for educational change, particularly in challenging environments.

In these supportive school environments, professional development was not seen as a one-time event, but rather as an ongoing, embedded process. Some principals initiated internal

workshops, facilitated peer observations, and even leveraged community resources to support teacher learning. These leaders acted not just as administrators but also as instructional mentors. Fullan (2011) emphasized that leadership that focuses on learning, rather than solely on management, is crucial for fostering innovation and sustaining teacher improvement over time.

The study also uncovered a range of contextual barriers that limited the effectiveness of professional development efforts in many schools. One of the most pressing issues was the widespread lack of access to basic instructional materials, including textbooks, teaching aids, and internet connectivity. Many rural schools in Ambon continue to operate with minimal technological infrastructure. Teachers frequently mentioned the unavailability of digital devices such as laptops, projectors, and stable electricity—factors that are essential for implementing the ICT-based instructional strategies introduced during training programs.

This digital divide echoes the global concern raised by UNESCO (2020), which highlights how infrastructural inequality exacerbates educational gaps between urban and rural schools, especially in low- and middle-income countries. When teachers are trained in technology-integrated pedagogy but lack the means to apply it, the result is frustration and disengagement. Moreover, digital illiteracy—both among teachers and students—further complicates the integration of educational technology, making professional development in this domain feel disconnected from the realities on the ground.

Another significant barrier identified in the study was the lack of post-training support and follow-up. Teachers reported that while they had attended various workshops or seminars, they were often left on their own afterward with little guidance or mentoring to help them implement what they had learned. Some expressed that the training content was relevant, but without coaching or reflection opportunities, it became difficult to translate theory into classroom practice. This finding aligns with Guskey (2002), who stressed that lasting change in teaching practices requires more than initial exposure to new methods—it demands ongoing reinforcement, support, and opportunities for application and feedback.

Bureaucratic constraints and rigid curriculum requirements were seen as inhibiting teacher innovation. Some educators mentioned that national exams and administrative workload left little

time for experimentation or collaborative planning. These systemic pressures, compounded by teacher shortages and large class sizes, often forced teachers to rely on traditional, teacher-centered methods even when they were aware of more effective alternatives.

Despite these challenges, several institutional enablers also emerged. In some schools, external partnerships with local universities or NGOs provided supplemental support and resources for professional development. These collaborations not only offered technical assistance but also validated teachers' efforts, enhancing their motivation. In other cases, district-level education offices played a role in distributing learning materials and providing supervisory visits, although the consistency and quality of these efforts varied widely.

In summary, the study underscores that while teacher motivation is vital, it is insufficient without a supportive institutional ecosystem. School leadership, resource availability, policy alignment, and consistent follow-up mechanisms all serve as enablers or in their absence, barriers to meaningful professional growth. To ensure that professional development leads to real instructional transformation, stakeholders at all levels must commit to addressing the structural and contextual limitations that rural teachers face.

The study reveals that professional development positively influences teaching innovation when it is accessible, contextually relevant, and supported by leadership and peer collaboration. These findings reinforce the interconnectedness between individual teacher agency, institutional culture, and systemic infrastructure.

In terms of theoretical contribution, the results align with Human Capital Theory, which suggests that investments in professional skills lead to improved performance (Becker, 1993). They also support Innovation Diffusion Theory (Rogers, 2003), where the adoption of new practices depends on social systems and communication networks.

This study suggests that educational policymakers must address the structural barriers that limit rural teachers' professional growth. Decentralizing training programs, investing in digital infrastructure, and supporting local mentorship systems are critical steps. Additionally, teacher education institutions should design flexible modules that allow in-service teachers in remote areas to access and apply professional learning in real time.

CONCLUSION

This study concludes that teachers' professional development plays a significant role in shaping teaching innovation in rural schools, even within the constraints of limited resources and institutional support. The findings reveal that when teachers are given access to meaningful, contextually relevant, and sustained professional learning opportunities, they are more likely to implement innovative instructional practices that are responsive to students' needs. Despite the geographic and financial barriers often faced by educators in Ambon, many demonstrated agency and resilience by seeking informal learning through peer collaboration, online resources, and self-initiated experimentation. Teachers who participated in professional development programs exhibited a clear transformation in their pedagogical strategies—employing multimedia tools, culturally relevant content, and student-centered approaches that fostered more engaging learning environments. Furthermore, schools that cultivated a culture of continuous learning—through leadership support, collaborative planning, and resource sharing—were more successful in sustaining innovation. However, the absence of adequate follow-up support, digital infrastructure, and consistent access to training remains a critical challenge. The study underscores the need for systemic efforts from education authorities to decentralize professional development programs, strengthen school leadership capacity, and build infrastructure that enables rural teachers to thrive professionally. In line with Human Capital and Innovation Diffusion theories, the findings suggest that professional development not only enhances individual teacher competence but also drives collective institutional progress. Ultimately, this research highlights the importance of empowering rural educators through inclusive, localized, and sustained professional growth initiatives as a strategic pathway to improving educational quality and equity in marginalized regions.

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