



Enhancing the Quality of Education through Innovative Educational Practices at Kalidawir Public Elementary School

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Abstract

This study aims to improve the quality of education at Kalidawir Elementary School through the implementation of innovative educational practices. The background of this study stems from the dominance of conventional learning methods that rely heavily on memorization and theoretical instruction. To address this challenge, innovative approaches such as project-based learning, technology integration, and collaborative methods were applied in the learning process. This research employs a qualitative approach using observation, interviews, and documentation methods to gain an in-depth understanding of the implementation and impact of innovative practices in the classroom. The results indicate that innovative education significantly enhances student engagement, academic performance, as well as social and collaborative skills. Project-based learning encourages students to be more active and contextual in understanding the material, while technology integration increases learning interest and enriches the learning experience. However, limitations in infrastructure and a lack of teacher competence in utilizing technology remain major challenges. Overall, this study shows that innovative educational practices can serve as an effective strategy to enhance the quality of learning at the elementary school level. The success of implementation largely depends on teacher training, adequate infrastructure, and the involvement of all school stakeholders. These findings are expected to serve as a reference for the development of adaptive educational policies that align with contemporary developments and student needs.

Keywords: *Innovative Education; Project-Based Learning; Educational Technology; Student Engagement; Learning Quality*

Introduction

Education is one of the main pillars in the development of a nation. Through education, younger generations can be equipped with the knowledge, skills, and values necessary to contribute to social, economic, and cultural life. In Indonesia, basic education—particularly at the elementary school level—plays a vital role in shaping the foundational knowledge and skills of children. Therefore, the quality of education at the primary level must be continuously improved to prepare a smart, creative, and future-ready generation.

Prastowo (2021) emphasizes that innovation in education is a crucial element in overcoming stagnation in the teaching and learning process. At the elementary level, such innovation can be implemented through the use of educational technology and experiential learning approaches that increase student motivation.

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A Research Article

However, the quality of education in Indonesian elementary schools continues to face several challenges, including issues related to curriculum, teaching quality, and limited facilities and infrastructure. According to Ki Hadjar Dewantara, most elementary schools still rely on conventional teaching methods, which emphasize memorization and theoretical knowledge without providing sufficient opportunities for students to develop practical, critical, and creative skills. This results in low learning quality and unpreparedness among students to meet the demands of higher education levels.

Mulyasa (2018) states that an effective innovation in learning is one that integrates technology with pedagogical approaches aligned with current developments. This integration aims to deliver learning that is relevant and responsive to students' evolving needs. The urgency of educational innovation becomes more evident in the face of rapid global and technological changes. In this context, creative and innovative teaching methods are essential to meet the diverse needs of students.

Innovative education is not merely about adopting new teaching methods, but also about utilizing technology, applying student-centered approaches, and emphasizing collaborative and experiential learning. Sagala (2020) and Zubaidah (2020) highlight that one form of educational innovation is the application of technology-based learning models, which can make the learning process more engaging and flexible—ultimately improving educational quality in elementary schools.

Kalidawir Public Elementary School in Sidoarjo, Indonesia, is one such school facing challenges in enhancing the quality of its education. Despite efforts to improve, the school struggles with inadequate facilities, limited infrastructure, and insufficient teacher training—hindering the implementation of more innovative educational approaches. Thus, it is important for the school to explore and implement innovative practices that can foster student engagement and improve learning outcomes.

According to Haryanto and Sari (2019), innovative education involves methods that actively engage students in the learning process. Project-based and collaborative learning are seen as essential for achieving effective and creative education. These approaches do not reject traditional methods outright but rather emphasize active student participation through problem-solving, critical thinking, and contextual learning.

Project-based learning, for example, allows students to engage directly in solving real-world problems, thereby enhancing their critical and creative thinking skills while preparing them to face complex global challenges. Ali (2015) and Wibowo and Utami (2022) argue that innovative education must address key aspects of modern learning, such as project-based learning and the development of 21st-century skills. Teachers must integrate critical, creative, collaborative, and communicative competencies into their instructional practices.

Selwyn (2012) adds that technology-based learning is a vital component of educational innovation. With the availability of technology, teachers can utilize digital applications and tools to create more interactive and enjoyable learning experiences. Technology helps students access information more easily, collaborate with peers, and develop essential digital skills for the future. Its use can also help overcome resource limitations, particularly in remote areas.

Arends (2016) reports that educational innovation in elementary schools increases student participation, supports independent learning, and enriches learning experiences through more varied and enjoyable methods. Similarly, Wibowo and Utami (2022) stresses that teachers must receive sufficient training in educational technology to effectively implement these innovations.

Nevertheless, despite its potential, the successful implementation of innovative education practices still faces a major challenge: teacher readiness and competence. As the frontline agents of education, teachers need a deep understanding of innovative teaching methods and the ability to integrate technology into their classrooms. Therefore, professional development and mentoring are essential to enable teachers to adopt innovative practices effectively and in alignment with student needs.

Nurhadi (2020) and Susanto (2019) note that the success of innovative education depends not only on technology, but also on the creativity of teachers in designing student-centered learning experiences. An approach that encourages active participation—whether individually or in groups—can significantly improve student learning outcomes.

It is also crucial to consider the local context of Kalidawir Public Elementary School in implementing innovative practices. The school has its own unique characteristics in terms of student demographics, socio-economic conditions, and available infrastructure. Therefore, any innovation must be adapted to the local context to maximize its impact. Kustini (2018) and Sulaeman and Hanafi (2019) state that educational innovation should create an enjoyable and challenging learning environment that actively involves students in solving real-life problems.

Innovative education at Kalidawir Public Elementary School is expected to improve learning quality and create a more engaging learning environment for students. The success of such innovations should not be measured solely by academic achievement but also by the development of students' social and emotional skills. Active participation in learning can increase self-confidence and motivation. Sani (2018), Setiawan (2020), and Sudjana (2017) emphasize the importance of an inclusive learning environment where students of different backgrounds and abilities can learn together. Through innovative approaches, teachers can better accommodate students with special needs and promote diversity in the classroom.

In summary, improving the quality of education at Kalidawir Elementary School through innovative practices is expected to produce a generation that is not only academically capable but also creative, critical, and adaptable to the dynamics of modern life. Thus, innovative education is not only a solution to existing challenges, but also a strategic step in facing increasingly complex global demands.

Method

To improve the quality of education at Kalidawir Elementary School through the implementation of innovative educational practices, a systematic and structured approach is essential. This study employs a qualitative research approach, aimed at gaining an in-depth understanding of how innovative educational practices are implemented in the context of a public elementary school setting.

The qualitative approach enables the researcher to obtain comprehensive insights into the perceptions, experiences, and challenges faced by teachers and students in adopting innovative learning methods. It also facilitates descriptive analysis, which helps provide a clearer picture of the processes involved in implementing educational innovations.

As part of this study, direct classroom observations will be conducted to examine how innovative practices are applied during the teaching and learning process. The researcher will observe the use of specific methods such as project-based learning, technology-assisted learning, and collaborative learning strategies. These observations are intended to evaluate how

such innovations are integrated into teaching activities, how students participate and engage during the learning process, and how teacher-student interactions unfold in innovative learning environments.

Observations will be conducted using both participatory and non-participatory techniques, depending on the research needs. In participatory observation, the researcher will be directly involved in classroom activities to gain a deeper understanding of the instructional process. In non-participatory observation, the researcher will serve as a passive observer, documenting the learning dynamics without directly participating in them.

Results and Discussion

Results

The implementation of innovative educational practices at Kalidawir Public Elementary School produced several notable outcomes across different dimensions of the teaching and learning process. Based on classroom observations, teacher and student interviews, and document analysis, the following key findings were identified:

Increased Student Engagement

A significant improvement was observed in student engagement during learning activities. Students became more active and enthusiastic, particularly when participating in project-based learning and using technology. They showed greater involvement in tasks such as data collection, experimentation, and real-world problem-solving. These methods not only fostered conceptual understanding but also encouraged creativity and collaboration. Furthermore, students expressed that learning became more enjoyable and relatable through the integration of digital tools such as:

- *Google Classroom & Microsoft Teams*: Facilitated organized access to learning materials and communication.
- *Kahoot! & Quizizz*: Made assessments more interactive and less intimidating.
- *YouTube & interactive videos*: Helped visualize abstract concepts and enhance comprehension.
- *Padlet & Mentimeter*: Enabled anonymous participation, benefiting shy students.
- *Google Docs & Jamboard*: Supported real-time group collaboration, even outside school hours.

Overall, students indicated increased comfort in asking questions, contributing to discussions, and understanding materials when supported by technology.

Improvement in Academic Performance

Post-implementation evaluations, including exams and project assessments, revealed notable improvements in students' academic outcomes—particularly in mathematics and natural sciences. Students found it easier to remember concepts through practical applications, simulations, and visual aids. Teachers reported that active learning methods helped deepen students' understanding compared to traditional instructional techniques.

Enhanced Social and Collaborative Skills

Collaborative and project-based learning activities had a positive effect on students' social development. Students learned to work in teams, share ideas, and resolve problems collectively. Observations revealed increased peer interaction and communication, fostering leadership and cooperation. Additionally, group work promoted a sense of responsibility, as students understood that their contributions impacted the success of the group as a whole.

Challenges in Technology Implementation

Despite positive outcomes, challenges emerged in terms of limited infrastructure and teacher readiness. While the school had some digital devices, their availability was insufficient to support all students equally. This made it difficult to fully implement technology-based learning across all classes. Moreover, several teachers reported limited skills in using advanced educational technologies. Although basic training had been provided, additional support was needed to integrate digital tools effectively into daily instruction.

Positive Teacher Response

Teachers responded positively to the implementation of innovative practices. Many reported increased motivation to develop more engaging and creative teaching strategies after witnessing improvements in student behavior and participation. However, they also highlighted the challenge of maintaining consistency, particularly when dealing with diverse student abilities. Nonetheless, most teachers agreed that the innovative approach yielded more satisfying results than conventional methods.

Student Perceptions of Innovation

Students expressed a strong preference for interactive and project-based learning. Many stated that they enjoyed working in groups and using technology to explore information or complete tasks. They felt that the learning became more meaningful, practical, and enjoyable. The opportunity to directly see the outcomes of their efforts (e.g., presentations, experiments) increased their confidence and motivation.

General Improvement in Learning Quality

Overall, the application of innovative educational practices contributed to a significant improvement in learning quality at Kalidawir Public Elementary School. This was evident not only in academic outcomes but also in students' creativity, collaboration, motivation, and confidence. Although some challenges remain—particularly regarding infrastructure and professional development—the study indicates that innovative approaches can serve as effective strategies for enhancing education in primary schools.

Table 1. Summary of Results in Tabular Form

Step	Description	Expected Results	Challenges Faced
1. Identifying Educational Issues	Evaluation of existing conditions, including traditional teaching and limited infrastructure.	Problem diagnosis to guide innovation efforts.	Infrastructure limitations, lack of teacher innovation training.
2. Implementation of Innovations	Introduction of project-based, collaborative, and technology-integrated learning methods.	More dynamic, student-centered learning.	Adaptation barriers to new methods and tools.
3. Stakeholder Involvement	Engaging teachers and students, including training and classroom application.	Improved motivation and participation.	Varying levels of readiness among participants.

Step	Description	Expected Results	Challenges Faced
4. Data Collection	Observations, interviews, and document reviews during implementation.	Rich insights into innovation effectiveness.	Limited time and resources for extended data gathering.
5. Evaluation of Learning Outcomes	Analysis of exam results and project performance.	Better understanding and improved academic achievement.	Difficulty in measuring long-term impact.
6. Consolidated Outcomes	Enhanced academic, social, and digital competencies among students.	Meaningful, engaging learning experiences.	Gaps in technology access and utilization.
7. Identification of Barriers	Documentation of limitations in practice and policy.	Basis for targeted recommendations.	Unequal access to resources and insufficient support.
8. Reflection and Recommendations	Reporting and proposing strategies for scaling innovation.	Policy guidance and school improvement strategies.	Time-intensive reflection and reporting process.

Discussion

The implementation of innovative educational practices at Kalidawir Public Elementary School offers valuable insights into how pedagogical transformation can unfold in a public school setting within a developing country context. The combination of project-based learning (PBL), technology integration, and collaborative learning approaches significantly shifted the learning environment toward a more participatory, student-centered model. This shift aligns with global pedagogical trends that emphasize active learning, learner agency, and contextualized instruction (Darling-Hammond, Wilhoit, et al., 2017; Darling-Hammond, Flook, et al., 2017; OECD, 2020).

At the core of the observed improvement is the capacity of innovation to foster not only cognitive gains but also socio-emotional and collaborative competencies among students. The findings support Zhao's (2016) proposition that 21st-century learning environments must go beyond academic content to cultivate entrepreneurial thinking, problem-solving, and teamwork. Students at Kalidawir were more engaged, confident, and motivated when exposed to digital tools (e.g., Google Classroom, Kahoot!) and real-world learning contexts that allowed them to construct knowledge collaboratively.

However, this study also surfaces critical constraints that limit the scalability of innovation in rural or semi-urban schools in Indonesia. Chief among these challenges are inadequate digital infrastructure, disparities in teacher digital competence, and varied levels of student readiness. These findings resonate with Selwyn (2012) and Schleicher (2019), who note that the digital transformation of schools often exacerbates inequality when not supported by systemic investment and targeted capacity-building.

The role of teachers emerged as a pivotal factor in either enabling or impeding innovation. Teachers who embraced continuous learning and digital experimentation contributed more effectively to instructional innovation. This underscores Hattie and Zierer's (2018) assertion that teacher mindset and professional agency are critical drivers of effective learning environments. Yet, many teachers remained hesitant or underprepared to implement innovation consistently, a challenge compounded by limited time for reflection and inadequate institutional support.

This study also confirms the necessity of context-sensitive adaptation. While models such as PBL and tech-enhanced learning have shown effectiveness globally, their implementation in Kalidawir required modification to suit local realities, such as access constraints and classroom culture. This reflects a key insight from the OECD's Education 2030 Framework: innovation must be locally owned, responsive, and adaptive to learner diversity.

Another notable contribution of this study lies in its affirmation of alternative assessment modalities. Conventional summative assessments proved insufficient to capture the full range of student development observed, particularly in soft skills. The need for formative, authentic, and performance-based assessments is in line with global calls to rethink evaluation (Furtak et al., 2016; Darling-Hammond et al., 2017).

In synthesizing these findings, the study reinforces several theoretical perspectives:

- Constructivist learning theory, where knowledge is co-constructed through active engagement and social interaction.
- Technological Pedagogical Content Knowledge (TPACK), emphasizing the dynamic integration of content, pedagogy, and technology.
- Transformative learning theory, particularly in relation to teacher development and shifting instructional paradigms.

In practical terms, this study offers a roadmap for similar schools to initiate low-cost, high-impact educational reform. However, successful replication demands sustained professional development, leadership commitment, and policy alignment to ensure that innovation moves beyond isolated efforts into institutionalized practice.

Limitations and Recommendations for Future Research

Despite the promising outcomes observed in this study, several limitations must be acknowledged. First, the research was conducted in a single elementary school with a limited number of participants, which may constrain the generalizability of the findings. The unique institutional culture, resource availability, and local community context at Kalidawir Public Elementary School may not fully reflect the conditions of other public schools in Indonesia or in similar developing country contexts.

Second, the implementation of innovative educational practices was affected by infrastructural limitations, including unequal access to digital devices and internet connectivity. These disparities influenced the consistency of technology-integrated learning across classrooms. While project-based and collaborative methods were generally adopted, their full potential could not be realized due to these resource constraints.

Third, the study relied primarily on qualitative data—observations, interviews, and document analysis—which, while rich in contextual insight, may limit the capacity to statistically measure the magnitude of change in learning outcomes. Furthermore, some learning impacts, particularly those related to social-emotional development and long-term retention of skills, may not have been fully captured within the relatively short observation period.

In light of these limitations, several avenues for future research are recommended:

1. Multi-site longitudinal studies should be conducted to explore the sustainability and long-term impact of innovative practices in diverse school settings. This would allow

for comparisons across urban, rural, and semi-urban contexts and help identify contextual enablers and barriers to innovation.

2. Mixed-methods research designs are encouraged to complement qualitative insights with quantitative measures of student achievement, engagement, and skill acquisition. Incorporating tools such as pre- and post-intervention assessments, standardized performance tests, and student self-assessments can yield a more comprehensive understanding of the educational outcomes.
3. Focused inquiry on teacher professional development is warranted, particularly on how different training models influence teachers' ability to integrate technology and facilitate student-centered learning. Future research could investigate the effectiveness of coaching, peer mentoring, and digital communities of practice in sustaining innovation.
4. Exploration of culturally responsive innovation models is also needed. Educational innovation must not be viewed as a one-size-fits-all solution; instead, it should be aligned with local pedagogical traditions, languages, and sociocultural realities. Future studies may examine how localized adaptations of global educational models can enhance student agency and equity in learning.

By addressing these areas, future research can provide deeper insights into how to scale and sustain innovation in basic education systems, particularly within low- and middle-income country settings.

Conclusion

The implementation of innovative educational practices at Kalidawir Public Elementary School has demonstrated promising outcomes in enhancing the quality of teaching and learning. Through the adoption of project-based learning (PBL), technology-integrated instruction, and cooperative learning strategies, students became more actively engaged in classroom activities. This not only deepened their conceptual understanding but also fostered essential 21st-century competencies, including social interaction, collaboration, and creativity.

The observational and evaluative data suggest that such innovations have succeeded in increasing student motivation and enthusiasm. Academic performance improved notably, particularly in subjects that were integrated with technology and real-world problem-solving tasks. Additionally, students showed visible progress in social and collaborative skills—key outcomes aligned with the objectives of learner-centered and constructivist approaches.

Nevertheless, despite these encouraging results, the implementation process was not without its challenges. Key constraints included limited infrastructure, uneven access to digital tools, and the need for more comprehensive and sustained teacher training. These barriers underscore the importance of institutional investment and strategic planning to ensure equitable and effective delivery of innovative educational practices.

Overall, this study affirms that innovation in basic education is both necessary and feasible, even within resource-limited settings. With strong commitment from school leaders, teachers, students, and the surrounding community, such innovations can be sustained and expanded. Moving forward, it is essential to strengthen educational infrastructure, support continuous professional development for teachers, and promote policies that enable the scaling of context-responsive, technology-enhanced, and student-centered learning environments. Only

through such systemic and collaborative efforts can innovation in education generate lasting and transformative impact.

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