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Innovative Learning Design and School Management Innovation in Improving the Quality of Collaborative Learning

Indriani Agustina [1*]

[1] Universitas Negeri Yogyakarta, Yogyakarta, Indonesia

Abstract

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Innovative learning design and innovation in school management play a key role in promoting meaningful and effective collaborative learning. This article discusses strategic approaches to designing innovative learning models oriented toward collaboration, as well as how innovation in school management enhances synergy among stakeholders. Through literature review and qualitative data analysis, it was found that the integration of technology, teacher training, and a collaborative organizational culture supports improvements in the quality of learning. The findings emphasize the importance of alignment between instructional design and managerial governance to achieve optimal learning outcomes collectively. This study highlights how systemic changes in both pedagogical design and school leadership contribute significantly to enhancing student engagement, learning collaboration, and institutional performance. By synthesizing recent research and field data, the article offers practical insights into how educational institutions can adopt integrated models of instructional and administrative innovation to foster a more dynamic, inclusive, and collaborative learning environment. The implications are relevant for educators, school leaders, and policymakers aiming to improve overall learning quality.

*Corresponding author:
indrianiagustina.2022@student.uny.ac.id (Indriani Agustina)

1. Introduction

21st-century education demands fundamental changes in the learning approaches that have been used so far. These changes not only encompass the application and utilization of technology in the teaching and learning process but also concern how the entire learning process itself is designed, managed, and evaluated to create truly collaborative, meaningful, and student-development-oriented learning experiences. Innovation in instructional design is not merely an option but has become a key catalyst in creating an inclusive, participatory, and actively student-engaged learning environment. In such an environment, students are no longer positioned as passive objects merely receiving knowledge but as active subjects who collaboratively shape, build, and develop knowledge.

Collaborative learning has now become a primary strategy in developing 21st-century skills, especially critical thinking, effective communication, inter-individual collaboration, and creative problem-solving abilities. This strategy is considered more relevant in preparing students to face global challenges. As these needs evolve, school management is also required to innovate continuously in regulating the learning system, creating a conducive learning environment, and managing human and technological resources more strategically to support the formation of a truly collaborative and participatory learning ecosystem. In this context, the roles of school principals, teachers, and all stakeholders in the educational environment must be directed towards creating an organizational culture that encourages active participation, builds open and equitable communication, and promotes collaborative decision-making. Such an organizational culture will foster a sense of ownership over

the learning process and encourage broader innovation at the school level (Li et al., 2018).

Innovative instructional design itself refers to an approach to planning, implementation, and evaluation of learning that consciously emphasizes the importance of technology integration, interdisciplinary approaches, and the strengthening of project-based learning and problem-based learning strategies. This design must be built systematically and cannot be separated from the support of an adaptive, flexible, and responsive managerial system to the continuously evolving dynamics of education. In practice, school management needs to create concrete structures and policies to support renewal and innovation in learning. This includes organizing relevant professional teacher training, strengthening collaboration among educators in learning communities, and optimally utilizing information and communication technology in daily learning activities.

Several studies emphasize that innovative initiatives at the classroom level often become unsustainable if not supported by a progressive and forward-thinking management system (Zhou et al., 2020). Therefore, innovation in educational management should not be merely technical or administrative but must encompass aspects of long-term strategic planning, the development of transformational leadership capacity, and the strengthening of a collaborative culture within educational organizations. This approach will enable the development of more structured and impactful collaborative learning programs. This aligns with the findings of Cheng et al. (2020), which show that school organizations adopting participatory and data-driven management approaches have a greater tendency to

succeed in implementing comprehensive collaborative learning strategies. This approach demands the involvement of all parties in the evaluation and decision-making process based on data and reflection.

The continuously evolving dynamics of globalization, along with rapid advancements in information technology, also necessitate a learning system that is contextual and digitally integrated. The learning context is no longer limited to physical classrooms but extends to digital spaces that allow cross-border interaction and collaboration. This adds urgency for schools to continuously update their teaching methods and management systems to remain relevant to the constantly changing demands of global competencies. Without consistent efforts for improvement and innovation, educational institutions risk falling behind and being unable to meet the needs of students in facing increasingly complex global challenges.

Therefore, the synergy between innovative instructional design and visionary school management is an absolute prerequisite for improving the quality of collaborative learning. Both must run in parallel and reinforce each other to create sustainable and far-reaching educational transformation. This article aims to explore how innovative instructional design can be effectively integrated with innovation in school management to improve the quality and effectiveness of collaborative learning. By reviewing various relevant and current research findings this article is expected to contribute in the form of conceptual understanding and practical recommendations useful for education practitioners at various levels.

2. Literature Review

2.1. Innovative Instructional Design in a Collaborative Context

Innovative instructional design is oriented towards active student engagement in the teaching and learning process. This involvement not only occurs physically but also includes emotional, cognitive, and social engagement. One commonly used approach is the structured and strategic utilization of digital technology, as well as the application of project-based or problem-based learning (PBL) methods that allow students to collaboratively construct knowledge. Through this strategy, students are encouraged to work in groups, discuss, share ideas, and find solutions together for complex problems. According to Kapur et al. (2018), collaborative learning approaches integrated with technology can significantly improve the quality of learning because they provide more space for students to develop critical thinking skills, effective communication abilities, and teamwork skills. This approach also enriches the learning experience by providing access to diverse digital resources.

In a study by Yurtseven Avci et al. (2022), it was found that the application of blended learning and flipped classroom methods positively contributed to an increase in student motivation and participation in collaborative discussions. Student involvement in these models was much higher compared to conventional learning. This design also emphasizes the important role of the teacher as a learning facilitator. Teachers need to guide interactions among students and create stimulating and contextual learning experiences. Models such as problem-based learning, collaborative inquiry, and the use of digital media optimally support this strategy. Additionally, Kim et al. (2019) highlight the importance of scaffolding in

collaborative learning, especially in online contexts, to keep discussions focused and ensure a fair distribution of responsibilities within learning groups

2.2. New Learning Strategies Supporting Emotional Intelligence

School management plays a very vital and strategic role in supporting the implementation of collaborative learning through various policy instruments, effective leadership practices, and appropriate and sustainable resource allocation. The role of management is not limited to administrative aspects but also concerns leadership vision and how management creates a learning environment that supports cross-role collaboration. A study by Owusu-Agyeman (2021) shows that school principals who adopt a transformational leadership style tend to be more successful in building a strong collaborative culture, not only among teachers as implementers of learning but also among students as key actors in the learning process. This leadership style encourages the involvement, inspiration, and motivation of all school elements in achieving common goals.

Innovation in flexible curriculum management, the development of evaluation systems focused on the learning process, and the regular organization of professional development programs for teachers are important elements in promoting a dynamic and adaptive collaborative learning ecosystem. Furthermore, Parham et al. (2020) emphasize that systemic and structured managerial innovations, such as the application of data-driven approaches for decision-making processes, can provide clearer direction in the implementation of collaborative learning. Evaluation systems designed based on collaborative processes and equipped with reflective monitoring have also proven effective in improving overall learning

outcomes (Zheng et al., 2019), as they provide continuous and relevant feedback for all stakeholders.

2.3. Synergy of Instructional Design and School Management

The close interconnection between instructional design and school management forms an educational ecosystem that is truly oriented towards sustainable and far-reaching collaboration. This relationship is not unidirectional but mutually influences and strengthens each other, requiring consistent alignment between pedagogical and structural aspects within the school environment. As stated by Wright and Wrigley (2019), the successful implementation of collaborative learning largely depends on a high level of cohesion between supportive school policies, the availability and quality of adequate technical support, and the capacity of teachers to effectively implement collaborative learning strategies. Schools that consistently instill the values of innovation as part of their organizational culture will be more prepared to adopt transformative instructional designs relevant to the demands of the times.

This is reinforced by the findings of Knight (2020), who emphasize that various forms of pedagogical innovation will not be sustainable without strong and consistent structural support from school management. Collaboration among teachers, the organization of effective and sustainable mentoring systems, and the formation of active Professional Learning Communities (PLCs) serve as crucial bridges between management policies designed at the top level and their actual implementation in classroom learning practices. In its best practice, schools must be able to function as learning organizations that continuously reflect, evaluate, and

improve the effectiveness of their instructional design to remain relevant and impactful.

3. Methods

This research uses a qualitative descriptive approach that aims to deeply explore the role of innovative instructional design and innovation in school management in improving the effectiveness of collaborative learning in educational environments. This approach was chosen because it can provide a comprehensive understanding of complex and contextual phenomena in educational practice. The main focus of this research is on the experiences and perspectives of educational practitioners directly involved in implementing innovative and collaborative strategies in schools. Research data was obtained from two main sources: a literature review of leading international journals published between 2018 and 2023. Data collection methods were carried out in two systematic stages.

The first stage was a literature study conducted by utilizing academic search engines to identify articles relevant to the research focus. The literature selection process was based on certain inclusion criteria, namely peer-reviewed scientific journal articles published, and focusing on innovative instructional design or collaborative school management. The obtained articles were then coded using thematic coding techniques with reference to Goldsmith's (2021) analytical framework, to identify key relevant themes. The second stage was field data collection through online interviews. The interview instrument was systematically designed based on guidelines compiled from previous literature, covering topics

such as innovation strategies in learning, managerial practices that support collaboration, and challenges encountered in the implementation process of these strategies.

Data analysis was performed using thematic analysis methods to find patterns, relationships, and themes that consistently emerged from the interview results. To ensure data validity, a source triangulation technique was used, by comparing data obtained from the literature with interview results. In addition, member checking was also conducted with the informants to ensure that the data interpretation performed by the researcher was appropriate and accurate. The analysis process was iterative and continuous, constantly linking empirical findings with relevant theories, to obtain a deep and comprehensive understanding of the integration between innovative instructional design and collaborative school management.

4. Results and Discussion

The results of the analysis obtained from this study indicate that the application of innovative instructional design, directly supported by transformative school management practices, significantly impacts the improvement of collaborative learning quality in educational environments. Innovative learning strategies not only function as mere instructional approaches but also become an integral part of creating active, participatory, and contextual learning experiences for students. The application of methods such as project-based learning and blended learning models has been proven to increase student engagement in discussions, problem exploration, and collaborative and reflective group work (Chua & Islam,

2021). These strategies enable students to develop critical thinking skills, communicate effectively, and solve problems collaboratively in real-world situations. The application of this approach not only increases student participation but also strengthens social interaction, promotes deep conceptual understanding, and reinforces a collective sense of responsibility for learning.

On the other hand, the successful implementation of innovative instructional design is highly influenced by the existence of supportive structural and school culture. Continuous professional training, the availability of supporting facilities, and flexible academic policies are key factors determining the effectiveness of its implementation. Previous studies strengthen these findings. Research by Cheng et al. (2020) suggests that the success of implementing collaborative learning strategies is closely related to the level of teacher participation in school decision-making. When teachers are given space to design learning independently and collectively, they show higher levels of commitment and responsibility in developing contextual collaborative activities. Support for teacher autonomy and inclusive policies makes the learning process more responsive to student needs.

From the technological side, teachers reported that the use of collaborative learning platforms such as Learning Management Systems (LMS), online teamwork applications, and digital discussion forums greatly helped strengthen communication and interaction among students. Technology acts as a connecting bridge that expands the learning space, both in terms of time and place. This is very beneficial, especially in reaching students who tend to be passive in conventional classrooms, as online media gives them the opportunity to convey ideas more comfortably and

structured. In this context, students are more confident in expressing opinions and actively participating in group discussions. The application of this digital technology simultaneously emphasizes the important role of teachers in providing relevant learning scaffolding. As stated by Kim et al. (2019), the use of digital scaffolding can keep discussions focused and help students divide work responsibilities fairly and efficiently in groups. Digital facilities also allow teachers to monitor group progress in real time and provide immediate feedback if needed. This approach not only improves the quality of learning outcomes but also encourages the formation of a supportive digital learning community.

However, the implementation of collaborative learning is not entirely free from challenges. Some teachers reported facing difficulties in managing collaborative classes, especially when dealing with unbalanced group dynamics or internal conflicts among group members. In addition, there were also obstacles in the form of limited technological resources in some educational institutions, which affected the suboptimal implementation of digital-based learning strategies. Teachers also emphasized the importance of comprehensive digital competence development, so that they are better prepared to face the demands of technology-based collaborative learning. These challenges highlight the need for strengthening institutional capacity to support collaborative learning initiatives. The study by Owusu-Agyeman (2021) emphasizes that the effectiveness of learning innovation greatly depends on the school leadership's ability to identify teacher needs and respond to them through adaptive policies. Responsive leadership encourages the creation of a learning

environment that is more open to pedagogical experimentation and collaboration-oriented innovation.

On the other hand, the results of this study also reveal the positive impact of the integration between innovative instructional design and education management that is open to renewal on the overall school organizational culture. Teachers reported that the success of implementing collaborative learning in the classroom was strongly supported by a collective work culture built among teaching staff, educational staff, and managerial elements. This collaborative culture encourages open communication, sharing of good practices, and cooperation in solving problems that arise during the learning process. One mechanism that has proven effective in supporting this culture is the formation of Professional Learning Communities (PLCs). Through this forum, teachers can discuss, design learning strategies together, and reflect on practices that have been carried out. PLCs also serve as a platform for sharing experiences in facing challenges in the classroom and formulating more collaborative solutions. In this way, teachers feel morally and professionally supported in implementing innovative collaborative learning (Cañabate et al., 2019).

These findings are in line with Parham et al. (2020), who emphasize the importance of organizational structures that support collective learning. In this context, schools function not only as institutions that manage educational administration but also as learning organizations that actively evaluate and improve themselves through the participation of all members. This collective commitment to continuous improvement creates a work atmosphere that encourages innovation and

courage in developing new learning methods. The integration of innovative instructional design with management approaches that support innovation forms a comprehensive and sustainable educational system. These two components are closely related and contribute to the formation of a more relevant, contextual, and student-needs-focused learning process. When creative and flexible learning strategies are combined with progressive and supportive school management systems, a learning environment is created that can adapt to change and provide room for students to grow (Kariippanon et al,. 2020).

Sustainable educational transformation requires close coordination between learning policies at the classroom level and comprehensive school management strategic planning. Without strong synergy, various innovative learning initiatives risk being interrupted or stagnating in their implementation. Therefore, schools as educational institutions need to place innovation not as a temporary activity but as a principle inherent in all aspects of their operations. The findings in this study indicate that a systemic and collaborative approach needs to be continuously developed to face the challenges of modern education. Learning strategies integrated with the strengthening of collaborative organizational structures form a strong foundation in shaping an adaptive and dynamic learning culture. Innovation in instructional design is not just the domain of teachers but is the result of collaborative work of all school elements, from the classroom level to strategic decision-making. With such an approach, educational institutions can create a more responsive, effective, and meaningful learning ecosystem for students. This approach also allows teachers to become agents of change who not only teach but also design contextual and

transformative learning experiences. Ultimately, the combination of innovative learning and collaborative school management becomes a key pillar in shaping excellent, inclusive, and relevant education for the 21st century.

5. Conclusion

Innovative instructional design and innovation in school management are two main pillars that complement each other in supporting the creation of quality and sustainable collaborative learning. Based on the results of this study, it can be concluded that the application of project-based learning strategies, the integration of information and communication technology in the learning process, and interdisciplinary approaches have proven to have a real positive impact on increasing student participation, motivation, and engagement in daily learning activities. Meanwhile, school management that is visionary, open to change, participatory, and consistent in encouraging innovation across various lines is an important foundation that allows these various instructional designs to be implemented effectively and beneficially in the school environment. Strong synergy between teachers as direct implementers of learning strategies and school principals as leaders of the educational organization is essential in building a solid collaborative culture.

The implementation of continuous professional development programs, the provision of adequate technological facilities and infrastructure, and the empowerment of teachers in strategic decision-making processes are key elements that support the success of this strategy. Thus, this article emphasizes the importance of a systemic approach in the world of education that integrates innovation at the

level of instructional design and managerial governance. The practical implication of these findings is the need for the formulation of educational policies that provide room for flexibility, autonomy, and the strengthening of collaboration in learning practices and the overall management of educational institutions.

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