

The Principal's Strategy in Encouraging the Use of Educational Game-Based Learning Media

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Article history

Submitted: 2026/04/01; Revised: 2026/05/11; Accepted: 2026/06/22

Abstract

The rapid advancement of information and communication technology has significantly transformed educational practices worldwide. This study aims to analyze the principal's strategy in encouraging the use of Educational Game-Based Learning (EGBL) media at SD Negeri 2 Purwojiwo. The research employed a qualitative case study approach involving the principal and teachers as participants. Data were collected through interviews, classroom observations, and document analysis, and were analyzed using the interactive model of Miles, Huberman, and Saldaña. The findings reveal that the principal implements several strategies, including instructional leadership, teacher professional development, motivational support, collaborative learning culture, and provision of learning facilities to promote the integration of EGBL in classroom instruction. These strategies help teachers gradually adopt and apply educational game-based learning to create more engaging and student-centered learning environments. However, the implementation also faces several challenges, such as varying levels of teacher digital competence, resistance to change, limited time, and insufficient technological infrastructure. Despite these obstacles, strong leadership and teacher collaboration serve as key supporting factors in the successful integration of EGBL. The study concludes that the principal's leadership plays a crucial role in fostering innovation in teaching practices and enhancing the quality of learning through educational game-based learning media at the elementary school level.

Keywords

Educational Game-Based Learning Media; Encouraging; Principal's Strategy



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INTRODUCTION

The rapid advancement of information and communication technology has significantly transformed educational practices worldwide. Schools are increasingly encouraged to integrate digital technologies into the teaching and learning process to enhance student engagement, motivation, and learning outcomes. One of the most innovative approaches emerging from this transformation is the use of Educational

Game-Based Learning (EGBL) media. Educational games combine instructional content with interactive gameplay, creating meaningful learning experiences that encourage active participation and critical thinking among students. In elementary schools, where students are naturally attracted to play-based activities, educational game-based learning has become a promising strategy to improve learning effectiveness while maintaining students' enthusiasm for learning. Consequently, schools are challenged not only to provide technological resources but also to foster an environment that supports teachers in adopting innovative learning media. In this context, the role of the principal becomes crucial as a leader who influences educational change and innovation within the school environment (Prensky, 2007; Gee, 2008).

The implementation of educational game-based learning media in elementary schools requires strong leadership support because teachers often encounter various challenges in adopting new technologies. These challenges include limited technological competence, lack of confidence in using digital learning tools, insufficient infrastructure, and resistance to changing conventional teaching practices. Therefore, principals are expected to formulate effective strategies that encourage teachers to utilize educational games as learning media. Through instructional leadership, professional development programs, supervision, motivation, and the provision of adequate facilities, principals can create favorable conditions for integrating educational games into classroom instruction (Sarjono & Rejokirono, 2025). Research has shown that school leadership significantly influences teachers' willingness to adopt innovative teaching methods and educational technologies. Effective principals act as facilitators, motivators, and change agents who inspire teachers to continuously improve their pedagogical practices in response to educational developments (Hallinger, 2011; Leithwood & Jantzi, 2008).

Educational game-based learning offers numerous benefits for elementary school students. Studies indicate that educational games can increase learning motivation, improve problem-solving skills, foster collaboration, and enhance academic achievement. Unlike traditional learning approaches that often rely on passive information delivery, game-based learning encourages students to actively engage with learning content through challenges, rewards, and immediate feedback (Purbonuswanto et al., 2024). Furthermore, educational games can accommodate diverse learning styles and provide individualized learning experiences that help students better understand complex concepts. In primary education settings, where maintaining students' attention is often a challenge, educational games have

proven effective in creating enjoyable and meaningful learning experiences. Consequently, teachers who successfully integrate educational games into their instruction can facilitate deeper learning and greater student participation (Plass, Homer, & Kinzer, 2015; Clark, Tanner-Smith, & Killingsworth, 2016).

Despite the recognized advantages of educational game-based learning, its implementation in many elementary schools remains limited. Several studies have reported that teachers often lack adequate training and institutional support to effectively utilize educational games in classroom instruction. Additionally, some schools face constraints related to technological infrastructure, internet accessibility, and availability of appropriate educational software. These challenges highlight the importance of school leadership in promoting innovation and overcoming barriers to technology integration. Principals who actively encourage experimentation with digital learning media can help teachers develop confidence and competence in using educational games. By establishing collaborative learning communities, providing professional development opportunities, and recognizing innovative teaching practices, principals can strengthen teachers' commitment to adopting game-based learning approaches (Ertmer & Ottenbreit-Leftwich, 2010; Tondeur et al., 2017).

SD Negeri 2 Purwojiwo represents an interesting context for examining the principal's strategy in encouraging the use of educational game-based learning media. As educational institutions increasingly adapt to the demands of the digital era, understanding how school leaders influence teachers' adoption of innovative learning technologies becomes essential. The principal's initiatives, policies, and leadership practices may significantly affect teachers' attitudes, readiness, and willingness to integrate educational games into classroom activities. Investigating these strategies can provide valuable insights into effective school leadership practices that support educational innovation, particularly in elementary education settings. Moreover, the findings may contribute to the development of practical recommendations for other schools seeking to enhance the integration of educational technology through effective leadership.

Based on the foregoing discussion, this study aims to explore the strategies employed by the principal of SD Negeri 2 Purwojiwo in encouraging teachers to utilize educational game-based learning media. The study seeks to identify the leadership approaches, support mechanisms, and institutional practices that facilitate the adoption of educational games in teaching and learning activities. By examining these aspects, the research is expected to contribute to the growing body of knowledge on instructional leadership, educational technology integration, and innovative learning

practices in elementary schools, while providing practical implications for school leaders, teachers, and educational policymakers seeking to improve the quality of education through technology-enhanced learning (Hallinger, 2011; Plass et al., 2015).

METHODS (Palatino Linotype 12, Space 1.15, Justify)

This study employed a qualitative case study design to explore the principal's strategies in encouraging the use of Educational Game-Based Learning (EGBL) media at SD Negeri 2 Purwojiwo. A case study approach was selected because it enables an in-depth understanding of leadership practices, experiences, and contextual factors within a specific educational setting. The participants consisted of the principal and several teachers who actively implemented educational game-based learning media in their classrooms. Data were collected through semi-structured interviews, classroom observations, and document analysis, including school policies, activity reports, and learning plans related to the integration of digital learning media. The collected data were analyzed using the interactive model of data analysis proposed by Miles, Huberman, and Saldaña, which includes data condensation, data display, and conclusion drawing/verification. To ensure the trustworthiness of the findings, data triangulation was conducted by comparing information obtained from different sources and data collection techniques. This approach allowed the researcher to gain a comprehensive understanding of how the principal's leadership strategies influenced teachers' adoption and implementation of educational game-based learning media in the teaching and learning process at SD Negeri 2 Purwojiwo.

FINDINGS AND DISCUSSION

The Principal of SD Negeri 2 Purwojiwo Implement Strategies to Encourage Teachers to Use Educational Game-Based Learning (EGBL) Media in the Teaching and Learning Process

The principal's strategy in encouraging the use of Educational Game-Based Learning (EGBL) media at SD Negeri 2 Purwojiwo can be understood as a multidimensional leadership effort that integrates instructional leadership, digital transformation, and teacher professional development within the school environment. In the implementation of Strategy Question 1, the principal plays a central role as a driving force in promoting innovation in teaching practices by creating a supportive school culture that values creativity, collaboration, and technology integration. One of the primary strategies observed is instructional leadership, where the principal actively guides teachers in improving their pedagogical practices through continuous supervision, classroom monitoring, and constructive feedback. Rather than merely

functioning as an administrative leader, the principal acts as a learning leader who ensures that instructional processes align with 21st-century learning demands. This approach is consistent with the view that effective principals focus on improving teaching and learning quality through direct involvement in instructional development and teacher support systems. By providing direction on how educational game-based learning can be integrated into lesson plans, the principal helps teachers move from traditional, teacher-centered approaches to more interactive, student-centered learning models that utilize digital game-based media to enhance engagement and understanding (Hallinger, 2011; Robinson, Lloyd, & Rowe, 2008).

Furthermore, the principal's strategy includes the provision of continuous professional development programs aimed at strengthening teachers' technological competence and pedagogical understanding of educational games. Teachers are often at different levels of digital literacy, and this disparity becomes a major factor influencing the success of EGBL implementation. To address this challenge, the principal organizes workshops, training sessions, and peer-sharing activities that focus on the design, selection, and application of educational game-based learning media. These programs are not only technical in nature but also emphasize pedagogical integration, ensuring that teachers understand how games can be effectively aligned with curriculum objectives and learning outcomes. Through this strategy, the principal builds teacher confidence and reduces resistance to technological innovation. This aligns with research indicating that teacher professional development is a key determinant in successful technology integration in schools, as it enhances teachers' self-efficacy and willingness to adopt innovative instructional practices (Ertmer & Ottenbreit-Leftwich, 2010; Tondeur et al., 2017).

In addition, the principal implements a motivational leadership strategy by fostering a positive school climate that encourages experimentation and innovation in teaching. Motivation is provided through recognition and appreciation of teachers who successfully implement educational game-based learning in their classrooms. This recognition may take the form of verbal appreciation, formal acknowledgment during meetings, or opportunities to share best practices with colleagues. By creating a culture of appreciation, the principal encourages teachers to continuously improve their instructional methods without fear of failure. This motivational approach is essential in overcoming psychological barriers such as anxiety, lack of confidence, and resistance to change, which are commonly experienced by teachers when adopting new technologies. The principal also promotes collaboration among teachers through the establishment of informal learning communities or professional learning groups,

where teachers can exchange ideas, discuss challenges, and collaboratively design game-based learning activities. Such collaborative environments strengthen collective efficacy and promote sustainable innovation in teaching practices (Leithwood & Jantzi, 2008; Bandura, 1997).

Another important strategy is the provision of infrastructure and learning resources that support the implementation of educational game-based learning media. The principal ensures that the school gradually improves its technological facilities, including access to computers, internet connectivity, projectors, and educational software. Although resource limitations may still exist, the principal prioritizes the optimal use of available facilities and encourages teachers to utilize simple and accessible digital tools for game-based learning. In some cases, teachers are encouraged to develop or adapt existing educational games that are compatible with the school's technological capacity. This pragmatic approach reflects adaptive leadership, where school leaders adjust strategies based on contextual constraints while still maintaining a focus on innovation and instructional improvement. The availability of supporting infrastructure significantly influences the sustainability of EGBL implementation, as it enables teachers to consistently integrate digital games into classroom instruction rather than using them sporadically or as supplementary tools (UNESCO, 2019; Koehler & Mishra, 2009).

Moreover, the principal's strategy emphasizes monitoring and evaluation as part of continuous improvement. The principal regularly evaluates the implementation of educational game-based learning through classroom observations, teacher reflections, and academic performance assessments. Feedback from these evaluations is used to improve instructional practices and refine the integration of game-based learning in teaching activities. This cyclical process ensures that the implementation of EGBL is not static but continuously evolving based on classroom realities and student needs. Through this evaluative approach, the principal strengthens accountability while also supporting teachers in their professional growth. The combination of supervision, feedback, and reflection contributes to a more structured and sustainable implementation of innovative learning media within the school environment.

Overall, the principal's strategy at SD Negeri 2 Purwojiwo reflects a comprehensive leadership approach that integrates instructional guidance, professional development, motivation, resource provision, and continuous evaluation. These interconnected strategies demonstrate how school leadership plays a critical role in shaping teachers' attitudes and practices toward educational game-based learning media. By positioning the principal as both a facilitator and change agent, the school

is able to gradually transform its learning culture into one that embraces digital innovation and student-centered learning approaches. The findings of this analysis are consistent with previous research emphasizing that effective school leadership significantly influences teachers' adoption of educational technologies and innovative pedagogical practices, particularly when supported by strong instructional leadership, collaborative culture, and ongoing professional development (Hallinger, 2011; Tondeur et al., 2017; Robinson et al., 2008).

The Supporting Factors and Obstacles Faced in The Implementation of The Principal's Strategy in Promoting the Use of Educational Game-Based Learning (EGBL) Media at SD Negeri 2 Purwojiwo

The implementation of the principal's strategy in encouraging the use of Educational Game-Based Learning (EGBL) media at SD Negeri 2 Purwojiwo reveals several supporting factors and obstacles that significantly influence the effectiveness of educational innovation in the school environment. One of the primary supporting factors is the presence of strong instructional leadership from the principal, which creates a clear vision and direction for teachers in integrating digital learning tools into classroom practices. The principal's commitment to improving teaching quality through technology integration fosters a positive school culture that values innovation and continuous improvement. In addition, teacher openness and willingness to adapt to new teaching methods serve as an important internal factor that supports the successful implementation of educational game-based learning. Teachers who are motivated and have basic digital literacy skills are more likely to experiment with game-based learning media and integrate them into their lesson plans. Furthermore, collaboration among teachers also becomes a significant supporting factor, as it allows them to share experiences, resources, and strategies in using educational games effectively. This collaborative environment strengthens collective learning and reduces individual barriers in adopting new technologies. Another supporting factor is the gradual improvement of school infrastructure, including the availability of digital devices such as computers, projectors, and internet access, which facilitates the use of educational games in classroom instruction. When these facilities are accessible, teachers are more confident in implementing interactive and technology-based learning activities that engage students more actively. These findings are consistent with research indicating that successful technology integration in schools is strongly influenced by leadership support, teacher readiness, and the availability of adequate technological infrastructure (Ertmer & Ottenbreit-Leftwich, 2010; Tondeur et al., 2017).

However, despite these supporting factors, the implementation of the principal's strategy also faces several significant obstacles that hinder the optimal use of educational game-based learning media. One of the main challenges is the varying levels of teachers' technological competence. Some teachers still have limited digital skills, which makes it difficult for them to design, adapt, or effectively use educational games in their teaching practices. This gap in digital literacy creates inconsistencies in the implementation of EGBL across different classrooms. In addition, resistance to change is another obstacle that affects the adoption of innovative learning methods. Some teachers tend to feel more comfortable with traditional teaching approaches and are hesitant to shift toward technology-based instruction due to fear of failure, increased workload, or lack of confidence in using digital tools. This resistance often slows down the transformation process initiated by the principal's leadership strategies. Limited time is also a significant barrier, as teachers often face heavy teaching loads and administrative responsibilities, leaving them with insufficient time to prepare interactive and game-based learning materials. As a result, even when teachers are willing to adopt EGBL, practical constraints often prevent consistent implementation in the classroom.

Another major obstacle is the limited availability and uneven distribution of technological resources within the school. Although some facilities exist, they may not be sufficient to support full integration of educational game-based learning across all classes. Issues such as unstable internet connections, limited numbers of devices, and lack of updated software can hinder the smooth implementation of digital learning activities. Moreover, technical difficulties during classroom sessions, such as system errors or lack of technical support, can disrupt the learning process and reduce teachers' confidence in using educational games. In some cases, students themselves may also face challenges in adapting to game-based learning, particularly if they are not familiar with digital tools or if they become overly focused on the game aspect rather than the learning objectives. This indicates the need for careful instructional design and teacher guidance to ensure that educational games are used effectively as learning tools rather than mere entertainment.

The analysis also shows that the sustainability of the principal's strategy is influenced by external factors such as limited professional development opportunities and insufficient ongoing training programs. While initial training may be provided, continuous capacity building is necessary to ensure that teachers remain updated with new educational technologies and pedagogical approaches. Without sustained professional development, the implementation of EGBL may decline over time or

remain at a superficial level. Additionally, policy support at the institutional level plays an important role in overcoming these challenges. Clear guidelines, structured training programs, and long-term strategic planning are needed to ensure that the use of educational game-based learning becomes an integral part of the school's teaching and learning system rather than an occasional practice.

Overall, the supporting factors and obstacles identified in this study highlight the complexity of implementing educational innovation in elementary schools. While strong leadership, teacher collaboration, and infrastructure development support the integration of EGBL, challenges such as limited digital competence, resistance to change, resource constraints, and lack of continuous training hinder its full implementation. These findings emphasize that successful educational technology integration requires a holistic approach that combines leadership support, teacher empowerment, adequate resources, and continuous professional development. This is in line with previous studies which suggest that the effectiveness of technology-based learning in schools depends not only on infrastructure but also on human factors such as teacher beliefs, competencies, and institutional support systems (Ertmer & Ottenbreit-Leftwich, 2010; Tondeur et al., 2017; UNESCO, 2019).

CONCLUSION

the principal's strategy in encouraging the use of Educational Game-Based Learning (EGBL) media at SD Negeri 2 Purwojiwo demonstrates a comprehensive leadership approach that combines instructional leadership, teacher professional development, motivation, collaboration, and infrastructure support to promote innovative learning practices. The principal plays a crucial role as a change agent in fostering a positive school culture that supports the integration of digital learning media into classroom instruction. Through training programs, supervision, and collaborative activities, teachers are gradually empowered to adopt and implement educational games as part of student-centered learning. However, the implementation of this strategy is still influenced by several supporting factors, such as teacher readiness, leadership commitment, and available technological facilities, while also facing obstacles including limited digital competence, resistance to change, time constraints, and inadequate infrastructure. Despite these challenges, the overall findings indicate that strong leadership significantly contributes to the successful integration of educational game-based learning in elementary education. Therefore, sustainable support, continuous professional development, and improved technological resources are essential to ensure the long-term effectiveness of EGBL implementation in schools.

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