



The Role of Principals' Transformational Leadership in Driving Learning Innovation in the Digital Era

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Submitted: 15-06-2025

Revised : 15-06-2025

Accepted: 15-12-2025

ABSTRACT. This study aims to analyze the role of principals' transformational leadership in driving learning innovation in the digital era. The development of information and communication technology requires educational institutions to reform their learning practices, necessitating an adaptive and visionary leadership model. This study employed a qualitative approach with a library research method through the search and analysis of various literature sources, including books, journal articles, and scientific documents relevant to the research topic. Data analysis techniques were carried out through data reduction, classification, and thematic interpretation. The results of the study indicate that principals' transformational leadership plays a crucial role in developing a vision for change, motivating teachers to innovate, and creating a school culture open to the use of technology in learning. Transformational leadership also contributes to improving educators' digital competencies and encouraging creative, collaborative, and student-oriented learning. This study concludes that transformational leadership is a strategic key in realizing sustainable learning innovation in the digital era.

Keywords: transformational leadership, principal, learning innovation,



<https://dx.doi.org/10.32678/ijose.vxx0x.xxxx>

How to Cite Name of Authors. (Year). Title of article. *IJOSE; International Journal Of Science Education, Volume* (Issue), 00-00. doi:10.32678/ijose.v5i01.0000.

INTRODUCTION

The development of digital technology has brought significant changes in various aspects of human life, including in the field of education. Digital transformation not only changes the way students access information, but also demands a shift in paradigms within the learning process in schools. Learning can no longer rely on conventional one-way methods; instead, it must integrate technology as a means to create interactive, collaborative, and student-centered learning. In this context, learning innovation becomes a necessity so that education can respond to the challenges of the digital era in a relevant and sustainable manner (Wahyuni & Wibowo, 2020; Pratama, 2021). Learning innovation includes the use of digital media, the implementation of Learning Management Systems (LMS), digital project-based learning, and even the integration of artificial intelligence in the learning evaluation process (Rahman & Yusof, 2022).

However, the success of learning innovation is not solely determined by the availability of technology, but is strongly influenced by leadership factors at the level of educational institutions. The principal, as the leader of the educational organization, has a strategic role in determining policy direction, work culture, and the climate of innovation in schools. Leadership that is merely

administrative is no longer sufficient to address the complexity of challenges in the digital era. A leadership model is needed that is able to inspire, motivate, and empower all members of the school community to actively engage in the process of change (Suyatno et al., 2021; Mulyasa, 2020). In other words, school leadership must shift from purely managerial to transformational leadership.

Transformational leadership is a leadership concept that emphasizes the leader's ability to build a vision, provide motivation, foster commitment, and encourage positive change within an organization. In the educational context, transformational leadership of school principals does not only focus on achieving administrative performance targets, but also on developing the quality of human resources, especially teachers. Transformational principals act as role models, innovators, and facilitators in the process of improving the quality of learning (Leithwood & Jantzi, 2019; Bush, 2020). Through this approach, principals are able to create a psychological climate that is conducive to the emergence of teacher creativity and innovation in developing digital-based learning strategies.

Various studies indicate that there is a significant relationship between transformational leadership and the level of learning innovation in schools. A study conducted by Sari and Nugroho (2020) found that principals with a transformational leadership style were able to increase teacher participation in the use of learning technologies. This is in line with the findings of Hidayat and Suryani (2022), who stated that transformational leadership contributes to improving teachers' digital competencies through training, mentoring, and providing space for experimentation in learning practices. Principals do not only act as policy makers, but also as change agents who encourage the transformation of learning culture in schools.

On the other hand, realities in the field show that many schools still face obstacles in implementing digital learning innovations. These obstacles include low levels of teachers' digital literacy, resistance to change, limited infrastructure, and minimal policy support from school leadership (Astuti & Kurniawan, 2021; Putri et al., 2023). In such conditions, the role of school leadership becomes increasingly crucial. Principals are required not only to provide technological facilities, but also to build an innovative mindset among teachers and students. Without visionary and participatory leadership, learning innovation tends to be sporadic and unsustainable.

Based on the discussion above, it can be concluded that transformational leadership of school principals is a key factor in promoting learning innovation in the digital era. Although there have been many empirical studies on this topic, most of them still focus on limited field studies within specific school contexts. Therefore, a literature-based conceptual study is needed to obtain a more comprehensive understanding of how the concept of transformational leadership can be systematically implemented in the context of digital learning innovation. This study aims to examine in depth the role of transformational leadership of school principals in encouraging learning innovation in the digital era through an analysis of various relevant scientific literature sources (Arifin & Setiawan, 2022; Sulaiman, 2021).

METHOD

This study employs a qualitative approach using a library research design. Library research is chosen because this study aims to examine conceptually and theoretically the role of transformational leadership of school principals in promoting learning innovation in the digital era. Through this approach, the researcher seeks to collect, review, and interpret various relevant scientific findings in order to build a comprehensive understanding of the phenomenon under investigation (Zed, 2014; Snyder, 2019).

The data sources in this study consist of primary and secondary data. Primary data include national and international scientific journal articles that discuss transformational leadership,

educational leadership, and digital learning innovation. Meanwhile, secondary data consist of textbooks, conference proceedings, research reports, and educational policy documents relevant to the research topic. The literature search was conducted through scientific databases such as Google Scholar, DOAJ, ERIC, and Scopus using keywords such as “transformational leadership”, “school principal leadership”, “learning innovation”, and “digital education” (Kitchenham & Charters, 2007).

Data collection techniques were carried out through documentation, namely collecting and classifying written sources that are relevant to the research focus. The literature selection process was conducted through several stages: (1) identification of articles based on the relevance of titles and abstracts, (2) filtering based on year of publication (the last five to ten years), (3) assessment of source quality based on journal reputation and author credibility, and (4) categorization of main themes according to the research variables (Ridley, 2012). Through these stages, only valid and relevant literature was used as material for analysis.

The data analysis technique used in this study is thematic analysis. The analysis was carried out through three main stages: data reduction, data display, and conclusion drawing. In the data reduction stage, the researcher filtered important information from each literature source that is directly related to transformational leadership and learning innovation. The data display stage was conducted by grouping literature findings into conceptual themes, such as leadership vision, teacher motivation, innovation culture, and the use of learning technology. Furthermore, the conclusion drawing stage was conducted by interpreting the relationships among themes to produce a comprehensive conceptual synthesis (Miles, Huberman, & Saldaña, 2014).

To ensure data validity, this study applied source triangulation by comparing findings from various literature originating from different contexts and perspectives. In addition, cross-checking among references was conducted to avoid interpretive bias and to ensure consistency of the concepts used. Thus, the results of this review are expected to have a high level of validity and credibility as a conceptual basis for understanding the role of transformational leadership of school principals in promoting learning innovation in the digital era (Creswell & Poth, 2018).

RESULT AND DISCUSSION

Result

Based on the analysis of various relevant literature sources, it was found that the role of transformational leadership of school principals in promoting learning innovation in the digital era can be classified into four main themes: (1) building a vision and direction for change, (2) teacher motivation and empowerment, (3) the creation of an innovative school culture, and (4) facilitation of the use of learning technology.

1. School Principals as Builders of a Digital Transformation Vision

The first finding indicates that transformational school principals play an important role in building a vision and direction for change toward digital learning. This vision is not merely symbolic, but serves as the foundation for school policies and development strategies. Principals who possess a digital vision are able to articulate the long-term goals of the school in responding to the challenges of the technological era, such as strengthening digital literacy, integrating technology into the curriculum, and developing a digital-based learning ecosystem (Leithwood & Jantzi, 2019; Bush, 2020). This transformational vision functions as an organizational compass that directs all members of the school community to move toward sustainable learning innovation. Without a clear vision, innovation tends to be sporadic and uncoordinated.

2. Teacher Motivation and Empowerment as Key Actors of Innovation

The second theme shows that transformational leadership of school principals makes a significant contribution to enhancing teacher motivation and empowerment. Principals do not only act as supervisors, but also as facilitators who provide trust, moral support, and opportunities for experimentation for teachers in developing innovative learning practices. Studies indicate that transformational leadership style is positively correlated with teachers' levels of creativity and their willingness to try new technology-based teaching methods (Sari & Nugroho, 2020; Hidayat & Suryani, 2022). Teachers feel more psychologically safe to innovate when leaders adopt a supportive and non-repressive attitude. Thus, transformational leadership creates emotional conditions that are conducive to the emergence of creative learning practices.

3. Creating an Innovative School Culture

The results of the review also show that transformational leadership plays a role in shaping a school culture that is open to change. An innovative culture is reflected in the collective attitudes of school members who value lifelong learning, collaboration, and continuous reflection on teaching practices. Transformational principals actively encourage professional dialogue, pedagogical discussions, and teacher learning communities as platforms for exchanging innovative ideas (Suyatno et al., 2021; Mulyasa, 2020). This culture makes innovation not dependent on specific individuals, but rather becomes an organizational characteristic of the school as a whole. In this context, leadership not only influences individuals, but also transforms social structures and institutional values.

4. Facilitating the Use of Learning Technology

The final theme indicates that transformational school principals play a facilitative role in the use of learning technology. Principals do not necessarily need to be technology experts, but they are responsible for providing policies, training, and infrastructure support that enable teachers to integrate technology effectively. The literature shows that schools with transformational leadership are more successful in implementing Learning Management Systems (LMS), digital learning media, and digital project-based learning models (Pratama, 2021; Rahman & Yusof, 2022). Principals also play a role in bridging pedagogical needs with technological developments, so that innovation does not merely follow trends, but truly enhances the quality of learning.

Discussion

The results of the review indicate that transformational leadership of school principals plays a strategic role in promoting learning innovation in the digital era. This finding is in line with transformational leadership theory, which emphasizes the importance of vision, inspiration, and empowerment as the core elements of modern leadership. In the educational context, school principals are no longer sufficient to act merely as administrators who manage school routines, but must become change leaders who are able to direct the transformation of learning culture (Leithwood & Jantzi, 2019; Bush, 2020). This strengthens the view that transformational leadership is the most relevant form of leadership to with the complexity of educational challenges in the digital era.

The formation of a digital transformation vision becomes the main foundation in the process of learning innovation. A clear vision enables schools to have a structured strategic direction in integrating technology into pedagogical practices. Transformational principals not only formulate the vision formally, but are also able to internalize the vision among all members of the school community so that it becomes a collective awareness. This is consistent with the concept of shared vision in educational leadership theory, which states that the success of organizational change is largely determined by the level of vision internalization among organizational members (Mulyasa, 2020; Suyatno et al., 2021). Thus, learning innovation does not emerge individually, but grows as a shared commitment.

In addition to vision, teacher motivation and empowerment are also key aspects in the success of learning innovation. Teachers are the main actors in the implementation of learning technology; therefore, the quality of school leadership greatly influences teachers' readiness and willingness to innovate. Transformational leadership creates a psychologically safe climate for teachers to experiment without fear of making mistakes. This finding reinforces previous studies showing that supportive leadership increases teachers' self-efficacy in adopting learning technologies (Hidayat & Suryani, 2022; Sari & Nugroho, 2020). From the perspective of organizational psychology, this condition is important because innovation can only flourish in an environment that values creativity and learning from failure.

The next discussion highlights the role of transformational leadership in shaping an innovative school culture. School culture is a structural factor that determines the sustainability of learning innovation. Transformational principals play a role in building a collaborative culture through learning communities, pedagogical discussions, and reflection on teaching practices. This is consistent with organizational learning theory, which states that organizations capable of collective learning will be more adaptive to environmental changes (Bush, 2020; Suyatno et al., 2021). Therefore, transformational leadership not only affects individual teachers, but also influences the value systems and norms that regulate the behavior of school organizations.

In the context of utilizing learning technology, this discussion emphasizes that the success of educational digitalization is not determined by the sophistication of devices, but by leadership that is able to bridge technology with pedagogical needs. Many schools possess technological facilities but fail to use them optimally due to the absence of visionary leadership. Transformational principals act as mediators between policy, technology, and classroom learning practices. This finding reinforces criticism of technocentric approaches in education, which place excessive emphasis on procuring devices without paying sufficient attention to leadership aspects and human resource development (Pratama, 2021; Rahman & Yusof, 2022).

Contextually, this discussion is also relevant to the condition of education in Indonesia, which still faces gaps in digital literacy and resistance to change. Many principals remain trapped in bureaucratic leadership patterns that prioritize administrative compliance over pedagogical innovation. In fact, the digital era demands flexibility, creativity, and the courage to take measured risks. From an educational policy perspective, these findings indicate the importance of professional development programs for principals that are oriented toward transformational leadership, rather than merely administrative management training (Mulyasa, 2020; Arifin & Setiawan, 2022).

Thus, this discussion affirms that transformational leadership of school principals is not merely a theoretical concept, but has significant practical implications for the development of learning innovation. Transformational leadership can serve as the driving force for changes in school culture, improvement of teacher quality, and meaningful integration of technology into the learning process. In the long term, this leadership model has the potential to enhance school competitiveness in facing increasingly complex and digitally driven global educational dynamics.

CONCLUSION

Based on the results of the library research review that has been conducted, it can be concluded that transformational leadership of school principals plays a highly strategic role in promoting learning innovation in the digital era. Transformational principals do not merely function as administrators of educational management, but act as change agents who are able to build a vision of transformation, motivate and empower teachers, and create a school culture that is adaptive to technological developments. Through visionary and participatory leadership, learning innovation does not emerge incidentally, but develops as an integral part of the school's organizational system and culture.

Transformational leadership has been proven to contribute to enhancing teachers' readiness to integrate technology into the learning process in creative and meaningful ways. Support from principals in the form of policies, training, and the creation of a psychologically safe climate enables teachers to experiment with various digital learning models without fear of failure. Thus, learning innovation is not only technical in nature, but also pedagogical, as it is oriented toward improving the quality of both learning processes and student learning outcomes.

The implications of this study indicate that strengthening the leadership capacity of school principals is one of the main keys to the success of educational transformation in the digital era. Therefore, educational policies are needed that place the development of transformational leadership as a priority in training programs and professional development for school principals. In addition, future research is recommended to examine empirically the implementation of transformational leadership in various school contexts in order to enrich the understanding of educational leadership dynamics in facing the challenges of digitalization in learning

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