

IMPLEMENTATION OF TRANSFORMATIVE LEADERSHIP AND ITS IMPLICATIONS FOR 21ST CENTURY SKILLS IN DIGITAL LEARNING IN HIGH SCHOOL

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Abstract

The rapid transformation of digital education encourages secondary schools to adjust learning patterns to the demands of the 21st century. However, many principals experience confusion in changing traditional leadership practices into adaptive, inspiring, and transformative leadership styles amidst the flow of digitalization. This study aims to examine in depth the experiences of principals and teachers in implementing a transformative leadership model in the context of digital education in Senior High Schools. The research approach used is qualitative with a phenomenological method, which focuses on the subjective meaning and direct experiences of informants. Data were collected through in-depth interviews, participant observations, and documentation studies, then analyzed using thematic techniques through a manual coding process and interpretation of the meaning of experience. The results of the study indicate that transformative leadership practices emerge from a collective awareness of the importance of digital vision, an internal drive to empower teachers through technology, and a commitment to building an innovative and collaborative culture. The experiences of informants show that leadership that is value-based, reflective, and open to change plays a key role in improving students' 21st century skills. This study provides in-depth insights for school leaders and policy makers to design a more meaningful leadership approach that is oriented towards educational transformation in the era of technological disruption.

INTRODUCTION

The development of digital technology has brought fundamental changes to the world. education, especially at the Senior High School (SMA) level. Learning that used to be conventional has now transformed into technology-based learning, which requires all components of education to be able to adapt quickly and strategically. In the midst of the global digitalization, new challenges have emerged for schools to not only adopt digital devices, but also transform their mindsets and leadership approaches in the school environment. This is in line with the need to strengthen 21st century skills such as critical thinking, creativity, collaboration, and communication, which are important indicators in developing students to face the future (Binkley et al., 2012; Rahmi et al., 2025; Mariyam et al., 2023). Schools that fail to keep up with these changes risk being left behind in providing relevant and meaningful learning in the era of technological disruption.

Unfortunately, various studies show that many principals still apply traditional leadership models that are hierarchical, bureaucratic, and less adaptive to technological changes. This approach is unable to encourage teacher innovation, hinders the integration of technology into learning, and causes low enthusiasm in forming a collaborative and visionary school culture (Murni, 2024; Herlina, 2025; Sunaryo & Efendi, 2023). On the other hand, transformational or transformative leadership, which emphasizes shared vision, collective inspiration, and empowerment of human resources, has proven to be more effective in supporting sustainable change in educational institutions. However, the adoption of this leadership model has not been evenly distributed at the high school level, especially in areas that have not been optimal in utilizing digital technology.

In the context of digital learning, the principal plays a strategic role as an agent of change who drives the transition process from conventional learning to technologybased learning. The transformational leadership model is important because it is able to foster an innovative, reflective, and collaborative spirit, all of which are prerequisites for the success of 21st century learning (Purwanto et al., 2020; Nurjanah et al., 2024; Asmendri et al., 2024). A transformative leader not only directs teachers to use technology, but also fosters intrinsic motivation, creates a safe learning environment for digital pedagogical experiments, and builds a school culture that is adaptive to change. This challenge becomes increasingly relevant as digital literacy has become an important dimension of teacher and student competence.

However, there is a gap in academic studies regarding implementation of transformative leadership in the context of digital education, especially those focusing on the subjective experiences of principals and teachers. The majority of previous studies are still quantitative and oriented towards the relationship between variables, while qualitative approaches based on phenomenology that explore narratives of experience are still very limited (Rahayu & Iskandar, 2023; Rahmi et al., 2025; Fathoni & Ilhami, 2025). In fact, the phenomenological approach is able to capture a deeper and more comprehensive social reality, especially in the context of non-linear managerial and pedagogical changes. By understanding the direct perspectives of educational actors, we can obtain an authentic picture of the dynamics of transformation in the school environment.

This study presents novelty in the context of Indonesian educational leadership because it integrates three strategic focuses: first, the use of a phenomenological approach that is rarely used in digital educational leadership studies; second, a review of the implementation of transformative leadership values in real practice; and third, a direct link between leadership practices and strengthening students' 21st-century skills (Bedi et al., 2024; Rifad et al., 2023; Sihotang, 2020). This study not only discusses the effectiveness of policies but also reveals how leadership values are carried out reflectively in the context of digital learning. From here, a new understanding emerges about how principals manage the complexity of educational change.

Practically, the results of this study provide important contributions for school principals, supervisors, and educational policy makers to design leadership strategies that are relevant to the

needs of the times. By understanding the direct experiences of school leaders, educational institutions can develop value-based leadership training and change that is not only administrative but also transformational (Joen et al., 2022; Parlina, 2023; Sunardiyah & Surahman, 2022). Another practical benefit is strengthening an innovative culture and reflective learning in the school environment, which will have an impact on improving the overall quality of education.

From a theoretical perspective, this study also broadens the scope of academic discussion on leadership in the digital era. Many international studies emphasize the importance of strengthening the capacity of school principals in managing change and digital learning, but there is still minimal contribution from the local Indonesian context, especially those directly linking leadership and 21st century skills (Yaminah et al., 2023; Sihotang, 2023; Binkley et al., 2012). Therefore, this study can be used as a basis for developing a valuebased, contextual, and reflective digital educational leadership theory that is more in line with the dynamics of Indonesian socio-culture.

THEORITICAL REVIEW

A. The Concept of Transformative Leadership

Definition and Characteristics

Transformational leadership is a leadership style that encourages major changes in organizations, focusing on developing individual potential and creating a shared vision. Transformational leaders act not only as managers, but as agents of change who are able to generate commitment, enthusiasm, and active participation from all members of the organization (Bass & Riggio, 2006; Burns, 1978).

1. Visionary Leader

A transformative leader always has a clear vision of the future and is able to convey it in a way that inspires collective enthusiasm. In education, this vision includes the direction of digital learning, technology integration, and strengthening 21st-century values. Visionary leaders play a role in shaping the direction and strategy of change, while creating a conducive atmosphere for the growth of an innovative culture (Rahmi et al., 2025; Rahayu & Iskandar, 2023; Fathoni & Ilhami, 2025).

2. Ability to Inspire and Motivate

One of the main characteristics of transformative leadership is its ability to generate enthusiasm and internal motivation, both from teachers, students, and education staff. Leaders like this do not lead with authority, but with influence, empathy, and example. They are able to build individual confidence

to try new approaches, such as the use of digital technology in learning (Murni, 2024; Sunaryo & Efendi, 2023; Nurjanah et al., 2024).

1. Focus on Positive Change

Transformational leaders always emphasize continuous improvement and positive renewal in the organization. In the context of schools, they lead the transformation of learning culture, design curriculum that is adaptive to the times, and open up collaboration space for all parties. The changes managed are not cosmetic, but deep structural and cultural changes (Asmendri et al., 2024; Sihotang, 2020; Joen et al., 2022).

B. Theory and Model of Transformative Leadership Burns and Bass Theory

James MacGregor Burns (1978) first introduced the concept of transformational leadership as a leadership style that is able to generate moral motivation between leaders and followers. He distinguished it from transactional leadership, which is based only on the exchange of incentives. Burns viewed transformational leaders as figures who foster values and aspirations in organizations.

Bernard M. Bass later expanded this theory through the development of the Full Range Leadership Model (Bass & Riggio, 2006). He explains four core components of transformational leadership, namely:

1. Idealized Influence (charismatic influence)
2. Inspirational Motivation (inspirational motivation)
3. Intellectual Stimulation (intellectual stimulation)
4. Individualized Consideration (individual attention)

This model has been widely used in various contexts, including education. Recent studies confirm its relevance in managing change in schools, especially when entering the digital era (Sunaryo & Efendi, 2023; Mariyam et al., 2023; Rahmi et al., 2025).

Transformative Leadership Model in Educational Context

In the field of education, the transformational leadership model is adapted to strengthen the role of the principal as an agent of school culture change. Some of its dominant characteristics include:

- Integrating digital technologies in learning management
- Providing space for teacher participation in innovation
- Cultivating a reflective culture and lifelong learning (Nurjanah et al., 2024; Parlina, 2023;

Murni, 2024)

A transformative principal is not just an administrative manager, but a learning leader (instructional leader) that directs all stakeholders to achieve common goals based on values and digitalization. In the context of implementing the Independent Curriculum and hybrid learning, this

model becomes increasingly significant because it demands flexibility, courage in making decisions, and sensitivity to change (Fathoni & Ilhami, 2025; Rifad et al., 2023; Herlina, 2025).

This leadership model is also very important in shaping teacher and student competencies in 21st century skills, such as digital literacy, problem solving, and collaborative learning. Transformational leaders provide a support structure and encourage growth. professional learning communities at school (Purwanto et al., 2020; Sunardiyah & Surahman, 2022; Bedi et al., 2024).

METHOD

This research uses a qualitative approach with this type of research. Phenomenology. This approach was chosen because it aims to explore in depth the subjective meaning and direct experiences of principals and teachers in implementing transformative leadership in the context of digital learning in High Schools. According to Creswell (2016), phenomenology aims to understand the essence of shared experiences experienced by several individuals in everyday life, so it is very relevant to examine how leadership values are internalized and implemented by educational actors.

The research was conducted in several Senior High Schools that have actively implemented digital learning and have an innovative reputation in leadership management in the Surakarta area. The locations were selected purposively with the following criteria:

- The school has digital learning integration,
- The principal actively applies an adaptive leadership model,
- Teachers and students are involved in developing 21st century skills.

Informants were selected using the technique purposive sampling, considering direct involvement in decision making and with implementation of digital learning. The main informants in this study were:

- The principal acts as a strategic and managerial leader,
- Subject teachers who actively integrate technology into learning,
- School management staff (vice principal for curriculum and technology).

The number of informants is determined based on the principle of sufficient information (data saturation) until no new meaningful information is found.

Data Collection Techniques

Data collection is carried out through three main techniques:

- In-depth interviews: using semi-structured guidelines to explore the personal and reflective experiences of informants.
- Participatory observation: researchers conduct direct observations of leadership interactions,

digital practices, and collaborative activities in the school environment.

- Documentation study: in the form of analysis of documents such as the school's vision and mission, digitalization program, School Work Plan and Budget (SWPB), and learning innovation records.

All data were collected triangulated to increase the validity and reliability of the findings. Data analysis was carried out using thematic analysis methods (thematic analysis) as developed by Braun and Clarke (2006). The analysis steps include:

1. Transcription of interview results and field notes,
2. Read the data repeatedly to gain a thorough understanding,
3. Conduct manual coding to identify themes and sub-themes,
4. Grouping themes according to the dimensions of transformative leadership and 21st century

skills,

5. Interpreting the meaning of informants' experiences and perceptions in the context of digital

education transformation.

The validity of the data was tested through four verification strategies of Lincoln and Guba (1985), that is:

- Credibility(credibility): through source triangulation and member checking.
- Transferability(diversion): by providing detailed contextual descriptions.

- Dependability(dependability): with an audit trail of the research process.
- Confirmability(confirmability): maintaining researcher objectivity by systematically recording

reflections and analysis memos.

This study upholds scientific ethics and participant privacy. Each informant was given written information and consent (informed consent) before the interview was conducted. Data were stored with a code of ethics to maintain confidentiality of identity. Researchers also ensured that the interview and observation process did not interfere with learning activities.

RESULTS & DISCUSSION

This study found that the implementation of transformative leadership in the context of digital learning in Senior High Schools was formed through the personal experiences of principals and teachers in responding to the demands of the digital age. The results of the thematic analysis produced four main interrelated themes, namely: Strong digital vision and strategy, Teacher empowerment through digital transformation, Innovative and collaborative culture in the school environment, and Implications for students' 21st century skills

Strong Digital Vision and Strategy

Most of the principals interviewed showed a high level of understanding of the importance of having a clear digital vision. They designed a technology-based school development roadmap that was compiled together with the management team and teachers. The vision was not only in the form of a document, but was communicated consistently through work meetings, internal media, and teacher community forums.

One of the principals stated: "I believe that digital transformation in schools will not happen if the principal does not have a clear direction. We cannot just buy devices, but we must build a culture of digital thinking."

This finding is in line with the view of Mariyam et al. (2023), which states that transformational principals act as initiators of long-term vision in the integration of educational technology. With this visionary role, leadership is not only administrative, but also strategic and transformative (Sunaryo & Efendi, 2023; Fathoni & Ilhami, 2025).

Teacher Empowerment through Digital Transformation

Teachers are key actors in realizing students' 21st century skills. The principals in this study actively empowered teachers through training. Internal ICT, coaching, and digital innovation team building. The approach used is not top-down instruction, but rather based on reflection and participation. Several teachers said that they felt more confident teaching with the blended learning method because they were supported and mentored by the principal. This process also fostered a sense of

ownership of the school program.

These results strengthen the findings of Nurjanah et al. (2024) and Rahayu & Iskandar (2023) that transformative leaders tend to provide space for teachers to develop, not just control. The principal's commitment to improving teacher competence has been shown to increase digital literacy and 21st century pedagogical readiness.

Innovative and Collaborative Culture

Observational data shows that schools led in a transformational manner have a strong collaborative climate. Innovation does not only come from the principal, but also from teachers,

even students. The principal encourages crosssubject projects, the use of Learning Management Systems (LMS), and teacher reflective forums.

A culture of mutual learning, mutual appreciation, and openness to failure characterizes the school environment studied. One teacher said: "We are not afraid to try. If we fail, we discuss it. Our principal always says: the important thing is to dare to try."

This finding is in line with the characteristics of transformational leadership which encourages intellectual stimulation and individual consideration (Bass & Riggio, 2006; Sihotang, 2020). Teacher initiative and student engagement increase as a learning atmosphere that supports innovation is created (Joan et al., 2022).

Implications for Students' 21st Century Skills

Interview results and documentation show that a reflective and open leadership approach contributes significantly to improving students' 21st century skills, especially in the aspects of critical thinking, communication, and collaboration. The use of digital media encourages students to solve problems, develop cross-disciplinary projects, and collaborate in a virtual environment.

Some teachers mentioned that students are getting used to video presentations, using Google Classroom for discussions, and doing digital literature searches independently. This is an indicator that the learning process is no longer teacher-centered, but has shifted to student-centered.

Research by Purwanto et al. (2020) and Rifad et al. (2023) shows that a consistent transformational leadership style encourages increased digital skills, information literacy, and student learning initiatives, in line with the demands of the 21st century.

These findings show that transformative leadership in digital education is not only ideal, but can be implemented in real terms through a gradual and contextual process. The principal acts not as a controller, but as a facilitator of change who directs, motivates, and empowers the learning community. The success of digital transformation in learning is greatly influenced by the strength of vision, flexibility of strategy, and ongoing support from school leaders. Thus, in the era of technological

disruption, leadership is not just managing devices, but leading a change in learning culture.

This finding supports the transformational leadership theory of Bass (2006) and Burns (1978), and strengthens local studies (Rahmi et al., 2025; Nurjanah et al., 2024; Murni, 2024) that 21st century education requires leaders who dare to innovate and think long term.

Conclusion and Suggestions

Based on the results of this study, it can be concluded that the implementation of Transformative leadership by principals in Senior High Schools plays a key role in driving effective digital learning transformation and has a direct impact on strengthening students' 21st century skills, especially in the aspects of critical thinking, collaboration, and digital literacy. Visionary, inspiring leadership that focuses on empowering teachers and developing an innovative culture has proven to be the main foundation in managing change in the era of technological disruption. Therefore, it is recommended that principals continue to develop their transformative leadership capacity through reflective and collaborative training, as well as building learning communities that support technology integration and strengthening leadership values based on sustainable change

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